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Investigating Defensible Space and the Criminogenic Capacity of Characteristic British Housing Designs

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Abstract

This thesis investigates the criminogenic capacity of characteristic residential housing designs found in the British city. This exploratory study collected and analysed both qualitative and quantitative data concerning the perceptions of major stakeholders in society (planning professionals, police officers, convicted burglars and young adults) regarding these design typologies. This design-specific approach highlights the crucial significance of 'image' and subjective perceptions in the 'design-affects-crime' debate thereby representing an innovative and original contribution. Newman's theory of 'Defensible Space' (1973) is convincingly supported, in that single family dwelling units such as detached, semi-detached and terraced housing, were perceived by all groups to be less prone to criminality. Low-rise and high-rise flats, however, were viewed in more negative terms, as highly criminogenic and fear-inducing. To probe the complex relationship between the social and physical dimensions of urban residential space, various designs of contrasting and polarised levels of upkeep were selected for investigation. Significantly, designs with visible 'signs of decay' that were poorly-maintained were consistently perceived to be both more criminogenic and fear inducing. Newman's third 'defensible space' element of 'image and milieu' is underpinned, in addition to the 'Broken Windows' theory of Wilson and Kelling (1982). It is established that design, per se, is not the definitive explanatory factor for criminality. Rather, it is the crucial socio-economic and demographic associations attached to these designs that influences perceptions of crime / deviancy, 'defensible space' and the fear of crime. The 'image' of the design can significantly affect levels of perceived defensibility. It is demonstrated that probing the subjective and perceptual elements to crime and fear of crime provides a useful analysis to pursue alongside the traditional approaches of utilising recorded crime statistics and published socio-economic and demographic data to guide policy responses and crime prevention through environmental design initiatives. Understanding the subjective reality of the fear of crime and how 'defensible space' is perceived can assist in the campaign to improve urban design and inform the Home Office's 'Secured By Design' initiative. This work underpins the journey towards understanding 'safer cities' and contributes to the design-affects-crime debate generally.

CERTIFICATE OF RESEARCH

This is to certify that the work described in this thesis is the result of the candidate. Neither this thesis, nor any part of it, has been presented, or is currently submitted, in candidature for any degree at any other university.

P.M Cozens	**Dr D. Hillier**	**Mr G.Prescott**
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(Date)	(Date)	(Date)

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Abbreviations

ABI	Association of British Insurers
ALO	Architectural Liaison Officer
BCS	British Crime Survey
BRE	Building Research Establishment
BSI	British Standards Institute
CCTV	Closed Circuit Television
CEN	European Committee for Standardisation
CJS	Criminal Justice System
COMPAC	Community Partnership Against Crime
CPTED	Crime Prevention Through Environmental Design
CSO	Central Statistics Office
DETR	Department of Environment and Transport in the Regions
DICE	Design Improvement Controlled Experiment
DOCA	Design Out Crime Association
DOE	Department of the Environment
GLC	Greater London Council
GSS	Government Statistical Service
ICA	International Crime Prevention Through Environmental Design Association
LCC	London County Council
LURU	Land Use Research Unit
MDU	Multiple Dwelling Unit
NACRO	National Association for the Care and Rehabilitation of Offenders
NCVS	National Crime Victimisation Survey
NYCHA	New York City Housing Authority
RICS	Royal Institution of Chartered Surveyors
SBD	Secured By Design
SCP	Situational Crime Prevention
SDU	Single Dwelling Unit
SCPR	Social and Community Planning Research
SNU	Safe Neighbourhoods Unit
TCM	Town Centre Management
UNCHS	United Nations Centre for Human Settlements

Chapter 1

Introduction, Background and Philosophy

1.0 Introduction

The focus of this research is a design-specific re-evaluation of Newman's *'Defensible Space'* (1973). This theory forms the foundation to many crime prevention initiatives in Britain, and rather than adopting the traditional approach of studying offenders, it focused upon the design of the built environment as a possible causal factor for criminality.

The failure of the British Criminal Justice System (CJS) throughout the twentieth century to contain or reduce crime has meant that this ubiquitous issue continues to represent a highly contentious and hotly debated area of study. Home Office data for 1997 estimates total expenditure on the CJS of £12.6 billion per annum, an average prison population of over 61,000 (at a cost of £1,740 million) and a recidivism rate of 58% (Home Office 2000). Since 1918, crime has increased on average by 5.1% per year, reaching 4.5 million incidents in 1997(Home Office, 1999). The British Crime Survey (BCS) (Mirrlees-Black *et al.,* 1998) estimates that criminality is as much as four times higher than reported statistics indicate. The 'dark figure' of crime, that which is not reported or recorded, clearly exacerbates the problem of analysing incidents of crime at the spatial level (Scott, 1990; Maguire, 1997).

This arguably demonstrates that the CJS has clearly proven ineffective in operation and largely reactive in nature. It is posited that analysing the urban 'stage', where crime is clearly located, can contribute to our existing knowledge and understanding of criminality. If design can affect the propensity to offend, and this research argues that it can, then focused research into this highly complex human-environment interaction is essential. Current government policy also suggests that researching this intriguing subject is both necessary and crucial to the design-affects-crime debate.

Firstly, the Social Exclusion Unit's recent report 'Bringing Britain Together: A National Strategy for Neighbourhood Renewal' (Social Exclusion Report, 1998), claims there are three thousand neighbourhoods in England with deep-seated problems of run-down or derelict housing. Seventeen 'pathfinder districts' have

been identified as particularly problematic and these areas would seem to represent a physical and social attempt at planning that has arguably proven to be 'unsustainable'. Proposals for housing improvement and demolition and plans to improve education, health, employment, training and crime reduction are testament to the scale of this crisis.

Secondly, the Department of the Environment's report entitled "Projection of Households in England to 2016" (DOE, 1995) predicts a new-housing requirement of some 4.4 million additional homes by 2016. The government's policy statement "Planning for the Communities of the Future" issued in February 1998 set an aggregated target of 60 per cent of new homes to be built on brownfield sites, while the remaining 40 per cent would occupy greenfield developments.

Furthermore, Lord Roger's report entitled 'Towards an Urban Renaissance' (DETR, 1999) has recently recommended a national campaign in order to improve design. "New urban developments, on brownfield or greenfield land, must be designed to much higher standards if they are to attract people back into our towns and cities" (DETR, 1999). It is hoped that this will reduce the outflow of 1,700 people per week from Britain's cities (Clover, 1999) and generally improve the quality and image of urban living.

Secured by Design (SBD) is a police initiative, which certifies new developments if certain security design criteria are satisfied, and has recently been validated by the Building Research Establishment (BRE). Indeed, the emerging area of crime prevention through environmental design (CPTED) has noticeably grown in popularity (Crowe, 2000) and is finding support from the Home Office, the Royal Institution of Chartered Surveyors (RICS), planners and the police. Moreover, the amalgamation and standardisation of elements of urban planning to 'design out crime' is forthcoming. The British Standards Institute (BSI) is currently working on a standard concerning building security in the 'BS 8220 Guide to the Security of Buildings Part 1 – Dwellings' (BSI, 1998). In addition, the CEN (European Committee for Standardisation) has been discussing the formulation of a European standard (CEN/TC325) on the 'Prevention of Crime by Urban Planning and Building Design' (CEN, 1999) since 1995. In fact Crowe (2000) lists thirteen crime

prevention 'titles' that are variant forms of CPTED, and all trace their origins to 'defensible space' theory. These include 'Security by Design', 'Design Out Crime', 'Safer Cities', 'Safer Places', 'Environmental Security', 'Natural Crime Prevention', 'Place Specific Crime Prevention', 'Secure and Liveable Communities', 'Crime Prevention Through Environmental Care', 'Situational Crime Prevention' and 'Comprehensive Crime Prevention'.

Approximately 89 per cent of the population in the United Kingdom is situated in "urban" areas (General Household Survey, 1996, p33) and in global terms, urban populations are projected to continue to grow exponentially (UNCHS, 1996). In consideration of the contemporary 'zeitgeist' of 'sustainable development', where the needs of future generations are of paramount importance, it is crucial to note that communities can only be sustainable if their residents are safe (Du Plessis, 1999).

This thesis argues that the perception of urban residential space is a crucially important factor in the design-affects-crime debate and has application for an increasingly globalised problem.

1.1 A Brief History of the Study of Crime and Place

To provide some background and focus to this research, it is useful to briefly trace the development of the study of crime and place. An understanding of the approaches of the past is necessary to highlight the original contribution of this research.

1.1.1 The 'Classical' and the 'Positivist' Approaches

The spatial analysis of crime is not a new area of study. Garland (1997) observes that the 'Classical School' of Beccaria, Bentham, Romilly and Howard, in the eighteenth century, espoused the concept of "free-will" on the part of the criminal to choose to commit a crime and therefore the necessity for punishment as a deterrent. By the mid-nineteenth century, the charting of the distribution and demography of crime had begun. Historically, there has been a long and

continuous study of 'dangerous places' in the nineteenth century city (Guerry,1833; Quetelet, 1835; Fletcher,1849; Mayhew,1862).

The 'Positivist School', of Ferri, Lombroso and Garofalo, however, possessed a seemingly more scientific stance, focusing on psychiatry, anthropology and biology, for example. Behaviour was, therefore, determined rather than chosen and, consequently, treatment was viewed as more appropriate than punishment. These approaches therefore sought to generalise upon the psychological, biological or social characteristics of known offenders. Such an approach has dominated criminology for over one hundred years, but has produced "very little information which has proved to have any direct relevance to the prevention or control of crime" (Brantingham and Brantingham, 1975, p12).

1.1.2 The Study of Offender Location - The 'Chicago School'

In the 1920's, Park *et al.,* (1925), Burgess (1916, 1925) and other urban sociologists at the 'Chicago School of Human Ecology', proposed that there were similarities between the natural distribution of plant life and the societal organisation of human life. Shaw and McKay (1942) developed these ideas and proposed the concentric model for the city, whereby crime was concentrated at the centre and dispersed outwards on a gradual basis. Evidence for this model of crime dispersal, after the Second World War, was, for Brantingham and Brantingham (1975), less visible, and many studies have eroded support for this approach. In America, studies by Lander (1954), Bordua (1958) and Chilton (1964) all found persistent areas of delinquency, but no support for the concentric zone model. In England, similar findings were reported by Morris (1957), Bagley (1965) and Wallis and Maliphant (1967). The existence of the 'rookeries', 'slums', 'dreadful enclosures' (Walter, 1972; Damer, 1974) and dangerous places, where criminality is found to flourish, might, in terms of the ecology of crime, be likened to a monoculture – where the spread of disease is unobstructed by the mechanics of diversity. The socio-economic and demographic characteristics concerning where delinquents and criminals *reside* is one of the elements of interest to the ecology of crime, where offences *occur* is another.

1.1.3 The Study of Offence Location

Notwithstanding the early cartographic studies, Brantingham and Brantingham (1975) claim that "ecological studies of crime rather than criminal residence have been relatively rare" (Brantingham and Brantingham, 1975, p14). White (1932), Lottier (1938) and Schmid (1960a, 1960b) found some evidence of 'natural' high crime areas, while Turner (1969) studied offences and offenders in Philadelphia and found that children tended to commit crime within a one mile radius of their place of residence.

The older cartographic tradition, further developed by the Chicago School, has long been aware of the geographical clustering of offences and offenders (Herbert and Hyde, 1985). Although, 'Environmental Criminology' had not formally been defined or established, the ecology of crime flourished, reaching a peak in the inter-war period and gradually declining in popularity after 1945. However, Bottoms and Wiles (1997) claim that a new impetus was provided by victimisation surveys in the 1960's and the 1970's, and along with developments in criminology, focused more prominently upon the 'offence' rather than the 'offender'.

1.1.4 Urban Design and Crime

With such developments and the seminal work of Jacobs (1961), the area and focus of investigation narrowed significantly to implicate urban design. Although anecdotal in content, she drew attention to characteristics of urban design that she opined may jeopardise community safety. The 'imageability' (Lynch, 1960) of the city was also an important area of investigation which was to transform how design professionals and social scientists dealt with urban form and design. Angel (1968) and Jeffrey (1969, 1971) provided further impetus, but it was not until Newman published *'Defensible Space'* (1973) that specific elements of urban design were widely associated with enhancing or reducing opportunities for crime.

Jacobs (1961) proposed that a sense of community cohesion, notions of territoriality, and a sense of responsibility for one's area are essential for crime prevention. In opposition to a contemporary trend for 'zoning', she advocated mixed land uses. This would encourage more street activity, which, it is argued, would stimulate social control and increase opportunities for surveillance ('eyes on

the street'), thereby reducing crime. Although largely anecdotal in content, her work has had significant influence upon subsequent researchers, in particular Newman (1973).

Angel (1968) similarly argued that safety depends on having adequate numbers of people to ensure surveillance. Too many people can attract offenders and can create zones of 'critical intensity' (Angel, 1968). Directing vehicular and pedestrian flows along commercial strips being one suggested solution. Jeffery (1969, 1971), who originally coined the phrase 'crime prevention through environmental design' (CPTED) wrote on the multi-disciplinary influence on crime of factors such as design, psychology, physiology and biology. However, he recently stated that modern CPTED ideas are based on Newman's work rather than his own (Jeffery, 1999).

Significantly, Newman's *'Defensible Space'* (1973) raised the profile and popularity of the idea that architectural and environmental design could influence criminality. Crucially, this American theory underpins modern CPTED and many other crime prevention strategies. Newman compared high-rise and low-rise social housing developments and implicated certain design features in the causality of crime. Crucially this theory has not been rigorously investigated in the British context, and in consideration of the powerful influence of these ideas, a re-evaluation is necessary. As such, this influential theory receives detailed deliberation and discussion in Chapters 2 and 3.

1.1.5 Environmental Criminology

Since the work of Jeffery (1969) and Newman (1973), CPTED has evolved into a robust sub-division within criminology (Brantingham and Brantingham, 1975). The 1970's and the early 1980's has witnessed the emergence of several 'geographies of crime' which investigated the social ecology of crime and stressed location, space and territory as its foci (Pyle, 1974; Harries, 1974; Davidson, 1981; Herbert, 1982; and Georges-Abeyie and Harries, 1980). Herbert and Hyde (1985) claim that such work has been further recognised by the emergence of 'Environmental Criminology' which "...places far greater emphasis upon the spatial dimensions of criminal behaviour" (Herbert and Hyde, p260).

In definitional terms, Bottoms and Wiles (1997) claim that environmental criminology "... is the study of crime, criminality, and victimisation as they relate *first*, to particular *places*, and *secondly*, to the way that individuals and organisations shape their activities by *placed-based* or *spatial factors*" (Bottoms and Wiles, p305). Other terms used include the 'Geography of Crime', the 'Ecology of Crime' and 'Situational Crime Prevention' (SCP).

Brantingham and Brantingham (1981) argue that there are four dimensions to any crime, namely the law, the offender, the target and the place. Environmental criminology is concerned with the latter and two particular behavioural theories have significance within this field. 'Routine activities theory' argues that for a crime to take place, there must be a motivated offender, a suitable target and the absence of capable guardians (Cohen and Felson, 1979). 'Rational choice theory' (Cornish and Clarke, 1986) makes the behavioural assumption that offenders are rational in their decision-making and recognise and respond to environmental cues (Pascoe and Topping, 1998). Commonalities between the two theories have also been discussed (Clarke and Felson, 1993).

Crucially, Herbert and Hyde (1985) note that if the spatial distribution of offences and offender (according to official statistics) were random, then environmental criminology would be of little interest to either scholars or arbiters of either criminal or social policy. Indeed, 'hot spots' of crime have received increasing interest in recent years (i.e. Nasar and Fisher, 1993; Lupton, 1999). This research adopts a microscopic approach and investigates the criminogenic capacity and perceived 'defensible space' qualities of characteristic British housing designs.

Wilson and Kelling's highly influential 'Broken Windows' thesis (1982) stressed the vital importance of maintaining the environment as a physical indicator for levels of social cohesion and informal social control. Subsequent work in this area field has underpinned these findings (Kelling and Coles, 1996). Various researchers have further developed the subject of physical and social signs of incivilities and fear of crime (Skogan and Maxfield, 1980; Lewis and Salem, 1986; Vrij and Winkel, 1991; Nair *et al.*, 1993). Such research demonstrates the significance of the physical

condition and 'image' of design, and is therefore considered a central concern for this design-specific investigation of crime and housing.

Ham-Rowbottom *et al.*, (1999) have studied 'defensible space' relating to detached housing designs only, and much research has been conducted in relation to 'gated communities' (Steventon, 1996; Blakely and Snyder, 1999). Furthermore, research has also been conducted regarding the evaluation of SBD (Armitage, 1999; Brown, 1999; Pascoe, 1999). This involves designing 'new' housing developments utilising 'defensible space' ideas. However, a design-specific and systematic analysis of 'defensible space', which investigates characteristic British housing designs, has not to date received detailed deliberation.

The utility of officially derived crime statistics for the purpose of mapping crime trends and formulating CPTED responses, in particular, has been increasing and promises much for the future (Harries, 2000). However, Brantingham *et al.*, (1977) and Vrij and Winkel (1991), among others, have discussed the idea that fear of crime may exist in areas which, according to official statistics, are not unsafe. Brantingham *et al.*, (1977) have commented that "...comparisons of the patterns of perception held by different groups may yield information about the sociology of crime as well as the environmental perception of crime" (Brantingham *et al.*, p260). The growth of fear of crime research has been significant (Hale, 1996), yet may not have been given the attention it deserves (Harries, 2000). This crucial subjective measure of criminality, therefore, represents a distinctly perceptual approach, which has also been largely overlooked within the evaluations of 'defensible space' (Tijerino, 1998; Ham-RowBottom *et al.*, 1999). Newman's third element of 'image and milieu' has certainly avoided such attention.

In consideration of the design failures of the past (Social Exclusion Unit, 1998), the household projections for the future (DOE, 1995) and the contemporary campaign for improved urban design (DETR, 1999), it is crucially important to investigate the criminogenic capacity of existing common housing designs. Indeed, Cozens *et al.*, (1999a, 1999b) have recently discussed the possibility of evaluating new-build housing projects in terms of their criminogenic capacity and their 'defensible space' qualities. The perpetual and compelling problem of crime, the resurgence of

CPTED world-wide (Crowe, 2000), and SBD in Britain, therefore, necessitates this design-specific re-evaluation of 'defensible space' within a modern British context.

1.2 The Original Contribution to Knowledge

This research contributes to knowledge by providing a systematic design-specific analysis of the criminogenic capacity of characteristic British housing designs. The image of the city has been subject to continued investigation (Lynch, 1960; Nasar, 1998) and this work specifically focuses at the microscopic level of housing design to reveal a 'stratification of place' (Logan, 1978). This exploratory investigation, innovatively probes the perceptions of elements of 'defensible space' (Newman, 1973), across common British housing designs, to provide a novel, subjective and perceptual perspective to this influential theory.

The aims of this thesis, therefore, are:

- To evaluate British housing designs in terms of their criminogenic capacity.
- To investigate the perception of crucial 'defensible space' elements associated with such housing.
- To provide insights into the design-affects-crime debate for CPTED and SBD researchers and practitioners.
- To investigate the complex socio-economic associations relating to each of the design typologies.
- To suggest further areas of research which can strengthen and broaden the focus of this research and further refine the methodology employed.
- To provide policy insights and implications for housing designs of the future, in addition to housing management and estate maintenance procedures.
- To produce operational insights for Police Architectural Liaison Officers (ALOs).

These aims will be achieved by adopting and utilising the following methods:

- To analyse the perception of well-maintained and poorly-maintained versions of the same design, to ascertain whether 'Broken Windows' theory (Wilson and Kelling, 1982) can be usefully woven into the rubric of 'defensible space'.
- To contrast the perceptions of major stakeholder groups to determine whether accord or discord is evident.
- To collect systematic data from police officers, planning professionals, convicted burglars and young adults using both qualitative and quantitative approaches. A simple binary framework will represent the mode of quantification.
- To analyse key components of the residential fabric of the British city.

Chapter 2 reviews and discusses the 'defensible space' literature and presents the major criticisms and significant studies in this area, demonstrating that inconsistencies and ambiguities exist and that a thorough re-evaluation is necessary.

Chapter 3 traces the development and refinement of 'defensible space' ideas in Britain and America and the emergence of CPTED (world-wide) and SBD (in the UK). This literature review serves both to direct the research, by identifying hiatuses of knowledge, and to demonstrate clearly, that these increasingly popular ideas are firmly rooted in 'defensible space' theory. Crucially, this chapter highlights the perceptual element to 'defensible space', which has largely avoided interrogation.

Chapter 4 investigates officially published crime statistics to ascertain whether such data can be usefully utilised to re-evaluate 'defensible space' in the British context. Such an approach is rejected as being inappropriate for the measurement of crime at the microscopic design level. Such statistics, it is argued, fail to provide an accurate or reliable measure for criminality and fear of crime emerges as an alternative framework for engaging with the design-affects-crime debate.

Chapter 5 provides a review of British housing policy to enable the logical and systematic selection of characteristic housing designs for specific investigation. Ten housing designs were selected. These included (where possible), two polarised versions ('A' was well-maintained, and 'B' was poorly-maintained) of each of the five design types. These were high-rise flats, low-rise/walk-up flats, terraced housing, semi-detached housing and detached housing. The designs were identified, selected and photographed in the contiguous areas of Cardiff and Penarth, South Wales, with the assistance of a Chartered Surveyor with a detailed knowledge of the locality.

Chapter 6 discusses the literature on the subject of the fear of crime. It is shown that fear of crime can be located in areas where, according to recorded crime statistics, crime is low. The perception of crime is discussed and it is argued that this topic remains relatively under-researched. This chapter thereby facilitates the development of the research instrument, which can be utilised as an alternative measuring tool for criminality, in addition to guiding the selection of sample groups and the phrasing of specific questions.

Chapter 7 provides a short review of the field of environmental psychology and, in particular, discusses the concept of perception. This serves to refine the research methodology, and, in particular, further supports the use of photography, as an appropriate method for the presentation of visual representations of the residential environment.

Chapter 8 reviews the research methodologies available to further refine and justify the adopted methodology. The methodology adopts a tri-partite approach, whereby the collection and analysis of respondent (experiential), qualitative (subjective) and quantitative (objective) data is the preferred and adopted methodological approach.

The results of the individual sample groups are presented and discussed in Chapter 9 (convicted burglars), Chapter 10 (planning professionals), Chapter 11 (police officers), and Chapter 12 (young adults aged 18-25). 'Defensible space' is systematically supported by these exploratory findings.

Chapter 13 compares and contrasts these results and provides a composite perspective of the perceptions of these four groups. Accord and discord is evident regarding perceptions and various key findings emerge.

Chapter 14 presents the summary, conclusions, limitations, policy implications and recommendations for future research that arise from this work, demonstrating that the aims and objectives of this research have been achieved.

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Chapter 2

A Critical Review and Discussion of 'Defensible Space'

2.0 Background and Philosophy

As stated in Chapter 1, environmental criminology has emerged relatively recently to focus upon the spatial patterning or the geography of crime and deviancy. Crime patterns have been observed and distinct differences exist in both the urban-rural and suburban-inner city contexts. 'Hot spots' within a variety of neighbourhoods have also been studied. Indeed, Saville (1998) comments that criminals "prefer some areas over others, they choose certain times of the day and week, and they focus on specific targets while ignoring others" (Saville, p1). The area and focus of investigation narrowed significantly, with the work of Jacobs (1961), who opined that specific elements of urban design may jeopardise community safety. Angel (1968) and Jeffrey (1969, 1971) provided further impetus, but it was not until Newman published '*Defensible Space*' (1973), which was seemingly supported by empirical evidence, that urban design was widely associated with enhancing or reducing opportunities for crime.

One stated aim of this research is to investigate the criminogenic capacity of the most common urban residential housing designs located within the British city. Such an inquiry, therefore, necessitates a review and critical evaluation of the foundations of the Situational Crime Prevention (SCP), Secured By Design (SBD) and Crime Prevention Through Environmental Design (CPTED); namely Newman's theory of 'defensible space'. Chapter 3 discusses the development of 'defensible space' ideas to date, and the implications of such developments.

The publication of Newmans' book *"Defensible Space"* (1973), has arguably had a profound effect upon the development of criminology, both academically and in terms of police initiatives. The recent reassertion of the criminogenic capacity of urban space has found sustained support from police authorities with the introduction of CPTED initiatives and, in combination with house builders, the SBD award. This chapter critically analyses the concept of 'defensible space' and subsequent investigations in this area, particularly the attempt to transfer an American theory to Britain, which is primarily associated with the work of Coleman (1985). It is argued that despite the recent widespread support for CPTED, in the form of the SBD initiative, the theoretical foundations remain largely untested, particularly in the British context. 'Defensible space' theory is based upon

inconclusive data, a questionable methodology and studies conducted primarily in America.

However, it is not the intention to embark upon the rejection of the concept of 'defensible space' per se, rather, it is to suggest the necessity for a thorough and rigorous re-examination utilising an appropriate methodological approach that can be effectively and usefully applied in Britain. It is posited that the shortcomings of the theory are many and varied, and that certain aspects of the theory have avoided attention, analysis, and consequently the critical policy responses that may have ensued are conceptually flawed. Subsequent refinements of Newman's theory seem also to have lacked the co-operation of both academics and policy-makers. Moreover, current advice provided by the police forces' architectural liaison officers, the SBD initiative, and a variety of housing design guidance notes are based firmly upon Newman's theory.

As Chapter 1 has commented, the projected 4.4 million new households required by 2016 (DOE 1995) and Lord Roger's report "Towards an Urban Renaissance" (DETR, 1999), which called for a nation-wide campaign for improved urban design, both add further critical dimensions to the necessity for progress in this field. Furthermore, pending British Standards (BS 8220) (BSI, 1998) and European Standards (CEN TC/325) (CEN, 1999) on designing safe urban environments are receiving detailed deliberation. As urban space expands relatively, across the globe, such research concerns, and the subsequent policy responses they may influence, require a circumspect approach.

2.1 Newman's Defensible Space Theory

Newman (1973) begins by examining the problem of ever rising levels of crime in urban America. Responses to the problem appeared limited and ineffective and images of the future were predominantly pessimistic. Fears of a drift towards a lock-up police state and the introduction of ever more legislation seemed the all too obvious solution. This was emphasised particularly by the exodus of a significant proportion of the middle class community out of the (criminal) inner city to the (law-abiding) suburbs. Indeed, this situation is mirrored in Britain today and Lord Rogers' report 'Towards an Urban Renaissance' (DETR, 1999), was largely

produced to help reduce the seventeen hundred people per week who are leaving cities for country towns (Clover, 1999).

Newman (1973) claims "this book is about an alternative, about a means for restructuring the residential environments of our cities so they can again become liveable and controlled not by police, but by a community of people sharing a common terrain" (Newman, p2). This alternative implicates the design of the built environment as an important causative factor with regard to criminality, and it claims that design can hinder or assist the criminal in the selection of both a crime site and a criminal act. 'Defensible space', for Newman "...is a surrogate term for the range of mechanisms - real and symbolic barriers, strongly defined areas of influence, and improved opportunities for surveillance - that combine to bring an environment under the control of its residents" (Newman, p3). There are four elements of 'defensible space' which act individually and in concert to assist in the creation of a safer urban environment:

1. The capacity of the physical environment to create perceived zones of territorial influence.
2. The capacity of physical design to provide surveillance opportunities for residents and their agents.
3. The capacity of design to influence the perception of a project's uniqueness, isolation, and stigma.
4. The influence of geographical juxtaposition with 'safe zones' on the security of adjacent areas (Newman, p50).

To summarise, the social housing projects of Brownsville and Van Dyke in New York (considered similar, in social terms), are compared and analysed with regard to recorded crime rates. According to the New York City Housing Association (NYCHA) police statistics, the high-rise blocks of the Van Dyke project experienced crime rates far higher than the low-level buildings of Brownsville (this rate is claimed to be as much as 50% higher). NYCHA also provided a range of demographic and socio-economic statistics for both tenant populations. Higher crime rates in the Van Dyke project were apparent, and since the tenant populations were considered broadly socially similar, Newman posited his explanation of this finding. The influence of the environmental design of buildings

is then implicated as a causal factor to explain the differing crime rates in the two housing projects. Newman (1973) states; "the physical form of the urban environment is possibly the most cogent ally the criminal has in his victimisation of society" (Newman, p2). The four elements of 'defensible space', outlined earlier, can translate the latent territoriality and sense of community of inhabitants, into a responsibility to secure and maintain a safe, productive and well-maintained neighbourhood. However, Newman's theory is not without its detractors and critics.

2.2 Defensible Space – A Critique

2.2.1 Statistics, Data Selection and Analysis

Adams (1973) claims that the archival data used by Newman "has allowed precise analysis of crime by location ... and identification of the areas most vulnerable to crime" (Adams, p26). Such analysis demonstrates that "certain physical design statistics (particularly number of floors, project size, and ease of surveillance of interior and exterior semi-public spaces) are substantially correlated with the incidence of crime in those projects" (Adams, p26). However, the nature of the data available and its treatment is questioned; "data analysis ... is inadequate and precludes critical examination by the reader" (Adams, p267). It is argued that there is a lack of distinction made, between observed relationships and the author's suppositions on how and why particular design characteristics function to deter or facilitate criminality. Adams asserts that "in their exuberance to apply their findings, many planners and public housing officials will quite likely mistake unsupported hypotheses for substantiated relationships" (Adams, p268).

Kaplan (1973) also draws attention to the crime statistics associated with other nearby housing projects, such as the sixteen-storey, low-income Tilden project, situated across the street from the Brownsville and Van Dyke projects, and the Glenmore Plaza project a few blocks away. Table 2.1 illustrates this point.

Kaplan (1973) concludes that such figures create a "strong case for low-income housing, including high-rise, which is not the impression generated by Mr Newman" (Kaplan, p8). He also notes that theoretically, there are excellent examples of 'defensible space' in Harlem and the South Bronx as well as on

Manhattan's Gold Coast, the East Side.

Table 2.1 1971 Crime Data for Selected Housing Projects in New York

Housing Project	Crime Index/1000 population
Glenmore Plaza (24 storey)	13.1
Tilden (16 storey)	32.4
Van Dyke (14 storey)	54.1
Brownsville (6 storey)	28.2
73rd Police Precinct overall average for most of Brownsville	97.8

Source: Kaplan (1973, p8)

Bottoms (1974) is similarly critical of both the data and its analysis on two counts. Firstly, he claims that the multivariate analyses used by Newman to compare the different sites give little support to the theory, and that the results of other 'pairs' of estates were not published. Mawby (1977a) concurs with this criticism, claiming "it could be argued that Newman has selected those areas which best demonstrate his theory" (Mawby, p171). Secondly, Bottoms claims that the analytic framework of the coupled-projects lacks an adequate consideration of 'move-ins' to the estates, weakening further the claim that the populations of both estates were broadly similar in social terms. Hillier (1973) agrees; "it is clear from the trend of move-ins to the estate that the new tenants moving into Brownsville are from better-off strata than are moving into Van Dyke" (Hillier, p542). For Bottoms (1974), the social and demographic similarities are superficial and concern only the 'average gross incomes' of residents, with no information provided concerning such information as background and cultural traditions. Bottoms therefore argues "given the importance of the hypothesis Newman is setting out to demonstrate, this is not really good enough" (Bottoms, p205).

Merry (1981) claims that the stated similarities between the two projects, in terms of population and density, proportion of minorities, children, families on welfare, broken families and average length of residence, do not reflect an accurate representation of the social milieu. She purports it is possible that "despite these similarities, they have quite different social structures" (Merry, p400)

Bottoms (1974) also criticises Newman's "uncritical use of criminal statistics" (Bottoms, p205). Problems associated with interpretation are not stated and some information is based on a victim survey that is not detailed; "so we have no idea how rigorous it was" (Bottoms, p205). Hillier (1973) also claims that New York police statistics have been systematically under-scrutinised and that; "Newman's basic argument ... linking design to crime – appears, on the evidence he gives, to be nonsense" (Hillier, p541). The statistical evidence "tends to refute his major hypothesis that physical design directly influences crime rates" (Hillier, p541). Hillier also notes that drug offences in Van Dyke were four times those of Brownsville, and; "unless Newman can find someway of linking drug taking with physical variables, then he must accept this as powerful evidence against his own hypothesis" (Hillier, p542).

2.2.2 Offence Rates and Offender Rates

The 'crime rate' in *'Defensible Space'* (1973) is concerned with offence rates, and no information is provided for offender rates in the estates. The reader is informed that "approximately 50% of the apprehendees in housing projects live in the projects they were victimising" (Newman 1973; p200), yet we are not told whether this figure varies with physical design on different estates. Adams (1973) observes that Newman makes a distinction between residents and the criminals who victimise them. He claims this is illusory since residents often victimise their own neighbours, which is particularly important in the low-income areas that were studied by Newman, where there may be a high proportion of resident offenders. Mawby (1977a) highlights the lack of discussion of offender rates and how this "may be of causative importance" (Mawby, p171) in relation to offence rates. (The offender rate is the number of offences committed during a given time by offenders living in that area while the offence rate refers to the number of offences committed in an area during a given time period).

2.2.3 Isolating Individual Variables and Inferring Causality

Adams (1973) notes the high correlation that exists between many of the design characteristics identified by Newman, and the difficulties involved in seeking to isolate individual variables. The problem of making causal inferences is identified; "before making causal inferences, it is necessary to ascertain the effects of particular physical variables independently of all other physical variables" (Adams,

p268). He claims Newman did not accomplish this and that "consequently his inferences are seriously jeopardised" (Adams, p268). Adams accepts that such a problem is characteristic of research carried out within the natural setting and that this does not seriously detract from Newman's methodology. He does, however, contend that "we should be more cautious in our inferences and conclusions" (Adams, p268).

2.2.4 Practical Difficulties and the Displacement Phenomena

The theory of 'Defensible Space' has also been criticised on a practical level. Indeed, Mayhew (1979) has asserted that the practical difficulties in utilising 'defensible space' to combat crime are "by and large ignored by critics" (Mayhew, p156). Measures can come into conflict with fire regulations, raise the principle of segregation of public / private housing, and the issue of residents' preference for privacy.

Kaplan (1973) discusses displacement, which is arguably one of the major criticisms levelled at the situational perspective generally and CPTED initiatives in particular. He claims that random interviews, with residents, revealed that they felt that teenagers from both Van Dyke and Brownsville projects caused the higher crime rates. "What we have is not crime prevention through urban design, ...but crime displacement" (Kaplan, p8). Hakim and Rengert (1981) claim that there are at least five types of displacement that can occur in areas where situational measures are in operation. "Spatial displacement" can occur where an offender will simply commit crime in another area where such measures are not in operation. The offender may therefore commit a robbery in a shop without security cameras rather than risk detection in a shop that utilises such technology. Similarly, a criminal may change the time or day that a crime is committed to avoid detection and this is labelled "temporal displacement". Thirdly, "tactical displacement" may occur when situational measures deter an offender from a particular method in favour of another to reduce the possibility of being caught. For example, the invention of cash-point machines and closed circuit television (CCTV) inside many banks may have influenced the potential bank robber to change tactics. The recent reporting of ram raiding and the theft of entire cash-point machines could be interpreted as one such example of tactical displacement. The choice of an easier target; or "target displacement", may also be eventuated

by situational measures. Finally an offender may, when confronted with situational obstacles to his or her target in crime, merely change the type of crime committed. Hollin (1989) notes the difficulty in measuring displacement but claims "there is little doubt that the studies of car steering locks (Mayhew *et al.*, 1988) and CCTV (Burrows, 1980) did show evidence of this phenomenon"(Hollin, p203).

Oc and Tiesdell (1997) cite the work of Gabor (1990), who argued that the inability to detect and measure displacement does not mean that it does not exist. Barr and Pease (1992) go still further and argue that displacement or their preferred term; 'crime deflection', is total and can never be precluded by research. They also distinguish between "benign" and "malign" displacement. The former concerns the displacement of a crime by one that has less impact or causes less damage to persons / property. Conversely, malign displacement would involve displacement and replacement of a less important crime, by one that has a greater impact and more adverse effects. Generally speaking, Oc and Tiesdell claim that "a certain amount of displacement is not necessarily a compelling argument against preventative measures" (Oc and Tiesdell, p72). However, it is contended that this issue should have been researched to a far more conclusive stage *before* fundamental design changes and CPTED initiatives are accepted, approved and operationalised. Crime 'deflection' through environmental design certainly does not represent any meaningful or acceptable solution, since it suggests the increasing concentration of crime in poorer areas.

Recent research from America, however, suggests that displacement can be utilised as a positive tool, rather than as a negative side-effect (Saville, 1998). This can be achieved by monitoring the wider environment and considering and planning against the possible knock-on effects of CPTED initiatives. Moreover, it can also be argued that displacement occurs as a negative side-effect of all existing crime prevention initiatives and is not a criticism that is exclusive to 'defensible space', CPTED or the SCP. It might even be postulated that in this era of 'place-marketing', where cities compete for global investment and business opportunities, displacement may represent a perfectly acceptable option. Indeed, Newman recognised the opportunity for "allowing displacement of crime to shopping, institutional and business areas ... (which) are more easily served by formal police protection" (Newman, 1973, p206).

2.2.5 Social Justice and Notions of 'Containment'

Oc and Tiesdell (1997) note that areas may vary in their degree of coverage, in terms of CPTED initiatives and 'defensible space'. The issue of social justice is therefore raised since, in the absence of 'universal coverage', crime is likely to be attracted towards the poorer areas which are less able to afford to incorporate such design modifications.

Indeed, the concept of 'containment' – where certain crimes or criminal groups can be controlled more readily by spatial concentration is another area of concern regarding the placement of CPTED initiatives. Barr and Pease (1992, p207) discuss the concept of "fuse areas". The analogy is drawn from electrical circuitry where the deliberate introduction of a weak point serves to protect the other parts and make the search for the damaged area a relatively short and highly directed one. 'Red light' districts would represent one example, while the declaration of Christiania (Copenhagen) as a 'free city' in 1971, might represent another. At a smaller scale, rowdy pubs known to be situated in one location may protect the quiet drinker who will know to avoid these areas. Indeed, Oc and Tiesdell (1997) claim this can have distinct advantages; "fuse areas permit oversight and regulation" (Oc and Tiesdell, p74). They identify "de facto" containment - the unintentional consequences of social policy (i.e. sink estates), and "de jure" containment which entails an element of compulsion / enforcement (i.e. the Skid Row area of Los Angles). Indeed, as Chapter 5 argues, recent modern housing allocation policies in British cities may well stand accused of the first indiscretion, and some, arguably the second.

2.2.6 The Social Milieu

One of the major criticisms of Newman's theory has been that it systematically understated and marginalised socio-economic and demographic factors in his methodological analysis of the data. For Hillier (1973) "height and size are already correlated with crime through social selection prior to the introduction of design variables" (Hillier, p542).

According to Mayhew (1979), *'Defensible space'* "purports to show that projects lacking in defensible space are particularly vulnerable to crime" (Mayhew, p150). However, he is critical of the lack of attention relating to the effect on crime of non-

design factors. Indeed, Poyner (1983) notes that Newman's work has been criticised for "underplaying the social and economic variables" (Poyner, p17). Similarly, Oc and Tiesdell (1997), argue that "by prematurely dismissing social factors and by concentrating on physical factors, the major criticism of Newman's theory of defensible space, is that it might obscure the importance of other factors which might nullify attempts to make use of the theory to control crime." (Oc and Tiesdell, p55)

Moughtin and Gardner (1990) comment that "it would be wrong to imagine that physical design can solve all the problems associated with anti-social behaviour, crime and violence" (Moughtin and Gardner, p12). They claim it is possible to protect given buildings and areas yet "for a more fundamental attack on the problem its deeper causes still need to be identified and overcome" (Moughtin and Gardner, p12). Mirroring these sentiments Smith (1987), wrote that CPTED is "... a relatively minor factor, and one that should not be considered independently of social organisation and local initiative " (Smith, p149).

In defence of Newman, he does recognise the social foundations of crime within the text of *'Defensible Space'*. He states that "the poor are most vulnerable to crime in any setting. But in anonymous buildings which facilitate their victimisation, we have the makings of a situation of crisis proportions" (Newman, 1973, p14). In addition, Newman stated that "the root causes of inner city and ghetto crime lie deep in the social structure of our nation" (Newman, p13). It is also clear that Newman attempted to find coupled projects that were similar in terms of socio-economic and crime data (See Newman; 1973, p38-49). His failure, as an architect and planner, in this respect, arguably reiterates the interdisciplinary and highly complex nature of the subject being studied. More importantly perhaps, is the highly complicated dilemma of attempting to locate truly comparable areas where socio-economic and demographic factors are controlled. Significantly, researchers continue to struggle to find such localities, almost thirty years on from Newman's original study. Armitage (1999) and Brown (1999) have recently highlighted such difficulties in their evaluations of SBD housing estates in West Yorkshire and Gwent respectively. Indeed, it is certainly highly questionable whether such an intricate operation is possible at all.

Referring to social elements reflected in allocation policy and building size, Hillier (1973) claims that higher buildings with higher crime rates do not directly implicate design variables. He asserts that a more obvious hypothesis; "that a society that produces underprivileged groups from which the majority of criminals come, also produces buildings and estates where, whether by invisible selection mechanisms or deliberate policy, the underprivileged groups are concentrated – namely, very large high-rise blocks on big estates" (Hillier, p542).

Wilson (1978) claims Newman's work later assumed the need for social and physical factors to combine to reduce crime, "both he and the DOE's 'difficult to let' team found the real problems occur when the most vulnerable families become concentrated in the most difficult forms of housing" (Wilson, p674). In an interview with Heck (1987), Newman provides further indication of a consideration for allocation policies. "High-rises ...do very well for high income populations on Fifth Avenue" (quoted in Heck, p31-32). Anonymous areas were patrolled by paid staff such as elevator operators, resident janitors, porters and other service personnel, causing Newman to comment "if you haven't got that kind of money to attend to those spaces ... you'd better not design them" (quoted in Heck, p32). When questioned regarding his position relating to the implementation of physical changes without social ones, Newman responded, "I would advocate physical where you have nothing more than three storeys; physical and social together where you have anything above that" (quoted in Heck, p32). The point here, perhaps, is to reiterate the management element and to suggest that Newman's understanding of the social causes of crime may not have been effectively integrated within his 'defensible space' methodology.

Ward (1991) argues that Newman was aware of the issue of the tenant and that it was social policy and architectural fashion that created the problems. He purports that "the ordinary public domain is fragmented into endless expensive private domains to insulate the people who can afford to pay for personal security from those who can't" (Ward, p234).

According to Smith (1987), there is also evidence that CPTED may reduce the fear of crime but "as yet there is no conclusive evidence to suggest that design is either socially appropriate or cost-effective as a crime prevention strategy" (Smith, p150).

In summary, Smith reasserts the social foundations of the debate; "...there is now a large literature suggesting that any empirical links between design and crime are crucially mediated by more fundamental social and cultural factors" (Smith, p149). She also claims that Newman has recently published evidence that the effects of design are less significant than he first anticipated (Smith, p149). Indeed, Newman and Franck (1982) studied the effects of building size on crime and the fear of crime and stated "the total effect of building size on personal crime rate is positive, as predicted, but small" (Newman and Franck, p209). The impact of building size was far more significant with regard to the fear of crime; "despite its small total effect on personal crime, building size has important indirect effects on personal crime, and on fear of crime..." (Newman, and Franck, p218). However, more recent research again contradicts these findings and has reported that building size does not always predict the crime-rate (Bernard-Butcher, 1991).

Newman has argued that his work has been widely misinterpreted, and that he was not claiming that the built environment could affect the social structures and values of society. Contrary to Le Corbusier, Newman stated that he did not believe that social revolutions were achievable through architectural design (Newman, 1975b, p54). The social foundations of crime were clearly stated; "early in our study it became obvious that the social characteristics of the resident population were stronger predictors of crime rate than the physical characteristics of design" (Newman, 1975b, p63). However, for Newman, this did not, in his view, diminish the import of the design-affects-crime approach. More recently, Newman expressed concern at the lack of familiarity of his work demonstrated by academics who tended to concentrate upon 'defensible space' as the focality. The development of ideas perhaps shown in the following statement "the socio-economic characteristics of residents also have strong causal effects on fear instability and crime" (Newman, 1995, p30). The importance of fear of crime cannot be understated. Indeed, as Merry (1981) notes "it is important to investigate what features make spaces seem dangerous" (Merry, p412). Furthermore, Tijerino (1998) notes the crucial aspect of actually recognising 'defensible space' elements. He argues that "for displacement concepts to be valid, the offender must be able to recognise the cues which make a space defensible" (Tijerino, p326).

The issue of 'fear of crime' will be more comprehensively discussed in Chapter 5. However, it must be stated that there are significant difficulties in accurately defining and measuring social and economic data and this issue will receive more comprehensive investigation in Chapter 4.

The social milieu is necessarily located within the physical context and progress is not just a case of improving one or the other. Understanding how and to what extent environmental design can influence behaviour remains an integral part of a multidisciplinary crime prevention strategy. The propensity of the built environment to encourage or discourage criminality is real and discernible, if not easily measured, and as such, certainly warrants further research.

2.2.7 Undefended and Offensible Space

Returning to the notion of 'defensible space' itself, Merry (1981), ponders why, in some instances, these spaces are not defended. In her American study, half of all robberies reported in a victimisation survey occurred in what were considered appropriately configured spaces using Newman's architectural criteria. Merry suggests various explanations for this situation. Firstly, a project possessing 'good' defensible space may contain contradictory design features within it that can hinder or prevent surveillance. Observable space does not guarantee the presence of an observer and even when they are present, intervention is neither necessarily automatic nor always effective. The display of territoriality and the extent of tenant intervention can be affected by certain factors. Ethnic heterogeneity and lifestyle variability may in some cases hinder social interaction and reduce the propensity to intervene. Lack of effective modes of intervention such as a feeling of futility towards involving the police or an attitudinal dislike or fear of the police, may also reduce the possibility for resident intervention. Perkins *et al.,* (1993) note further that territoriality will vary across and within neighbourhoods. The fear of crime or retaliation relating to intervention may also be important. In an environment where criminal activity is open, visible and more socially acceptable, citizens may fear reprisals. Finally, the nature of the neighbourhood regarding ease of identification regarding strangers can influence both the levels and the extent of intervention. Culturally and ethnically mixed areas may mean that such identification is more difficult and therefore, may restrict the potential for assistance by residents, to friends and family only.

In addition, Merry (1981) identified certain characteristics of those who intervened when a criminal act was evident "... those who intervene are highly committed to the neighbourhood in terms of length of residence, social networks, and time spent in daily social interaction inside the project. They find it a familiar and relatively safe place to live" (Merry, p410). Individuals from ethnic minority groups also differed in the size of the spaces they would defend and in the frequency of intervention. Similarly, social conditions may nurture fear and can also reduce the inclination to intervene. Being afraid may result in the withdrawal of the self into the home, which becomes heavily fortified. Venturing outside may be restricted and the curtains of these homes are generally drawn to protect privacy. Such people are less likely to intervene. Summarily, Merry (1981) notes "this behaviour enhances the opportunity for crime by creating large sections of the project where residents can be expected not to defend the space, even when it is architecturally defensible" (Merry, p411). The importance of the social element is therefore reiterated; "design has the potential for releasing defensive behaviour but only under certain social conditions" (Merry, p398).

Merry (1981) has demonstrated that the presence and nature of the user of space is an important issue in the design-affects-crime debate. Atlas (1991) expresses similar concerns, noting how strangers or criminals in space that is defined, architecturally, as 'safe', may well create a sense of danger for the users. Familiarity with an area and the anticipation of intervention can also nurture a sense of safety in environments defined as being architecturally more hazardous.

Atlas (1991) extends the debate with his concept of 'offensible space'. This is defined as "...the use of defensible space and environmental design strategies for enhancing security for the criminal element and obstructing justice" (Atlas, p65). He notes that it is not just town planners and designers, or indeed police architectural officers, who have successfully used the principles of 'defensible space'. Drug dealers and criminals may posses an intuitive understanding of the concepts of territoriality, surveillance and control of access to create 'safe' or 'offensible' space within which they may carry out criminal activities.

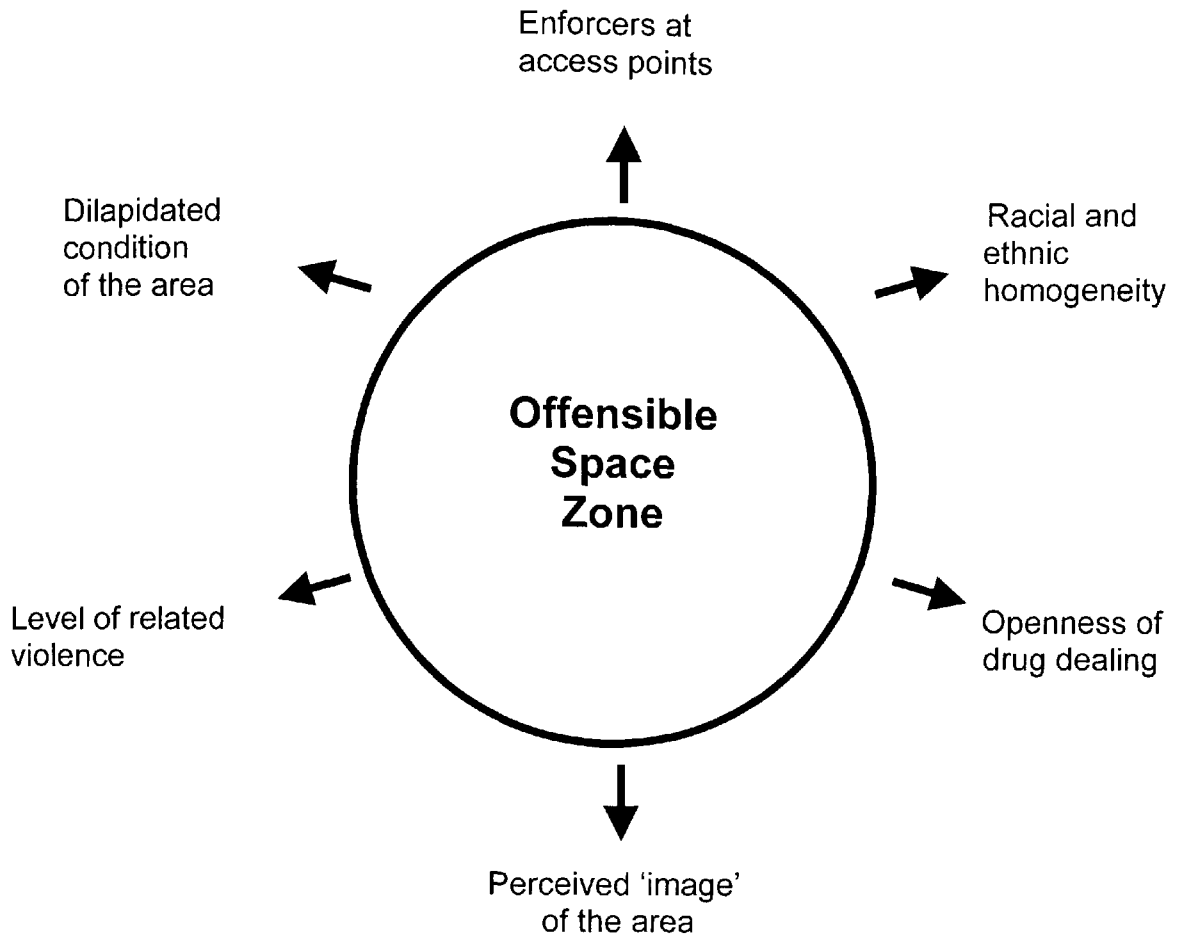
Atlas (1991) notes how the 'drug den' can often be protected like a fortress and utilises 'offensible space' features to;

1. Identify outsiders and police;
2. Investigate others who may approach;
3. Pass on identified problems to those who are in control of the situation;
4. Maintain communication networks to warn dealers of approaching police;
5. Apply target hardening mechanisms to the environment to impede police entry and help prevent the theft of drugs or other 'goods' by outsiders (e.g. reinforced steel doors).

The successful implementation of 'offensible space' relies on two key requirements for the criminal. Resources, in the way of illegally acquired money, enables target hardening mechanisms to be installed. This facilitates the control of the environment by consensus (created by intimidation) and the willingness and freedom to carry out their intentions. Surveillance activity, a network of spotters, and the installation of peep holes, barred windows and strengthened doors, are all examples of the access and surveillance control features found in his study of twenty-one crime sites in Florida (Atlas, 1990). Corner positions were preferred as surveillance nodes, while criminal sites were commonly located in the middle of a block, insulated by surrounding dwellings and providing multiple escape routes.

Jacobs (1961) argued that increased participation in the form of street level activity can assist citizens to take control of the streets. Atlas (1991) similarly argues that criminals do likewise. Pathways and streets can become part of the criminal 'turf', bolstered by fences, walls and barricades to inhibit the movement of police. The enhancement of territoriality is achieved by the presence of other employees and associates such as look-outs, enforcers and distribution agents. The 'stranger' in such an environment then becomes the person who is not doing business there, and who is made to feel unsure and unwelcome, surrounded by a sense of danger, and possibly at risk of personal injury or attack. Indeed, such behavioural and environmental cues provide the non-criminal with the information that signifies that he/she has entered a zone of 'offensible space'. Figure 2.1 provides a graphical representation of Atlas' ideas.

Figure 2.1 **A Model of 'Offensible Space'.**



Source: Adapted from Atlas (1991, p66)

Atlas (1991) disagrees with what he considers to be Newman's 'architecturally deterministic view' and claims the role of architecture in behaviour is subtle and difficult to measure. More importantly, he notes "an issue that is sometimes overlooked is the quality of the people gravitating to these place" (Atlas, p66). Within the urban residential environment, Atlas asserts that 'defensible space' techniques may not be affordable to all and the consensus and the power to implement such measures, in a uniform fashion may be absent. It is interesting to recall a recent statement by the current Home Secretary, Jack Straw, where he calls for more 'active citizenship'. "If we want to live our lives free from crime, we must recognise that we all have a responsibility to help reduce it" (in Jones, 1999). A commendable sentiment – if all citizens lived in the same environments, with the same levels of recorded crime and possessed the same powers and inclinations to intervene and reduce its occurrence.

Interestingly, it can be postulated that 'undefended' and 'offensible space' can also be utilsed to support Newman's ideas, rather than detracting from them. Crucially, the term 'defensible' is defined in the Collins English Dictionary (1993, p401) as 'capable of being defended' and therefore the fact that 'others' utilise the qualities of well-configured space for their own clandestine devices, is largely irrelevant. In the case of 'offensible space', it *is* capable of being defended, it is merely defended by illegitimate 'others'. Similarly, 'undefended space' *is* capable of being defended, yet certain socio-ecocomic and demographic factors can sometimes discourage such defensive responses. Housing policy, management practices and maintenance procedures, in addition to adverse socio-economic factors, may well influence the propensity for residents to 'defend' yet it is patently myopic to reject 'defensible space' on the grounds that it does not work *all* the time. Surely it is imperative to create environments that are '*capable of being defended*' – even if they are not actively defended as such. Creating environments that do not encourage and assist residents in protecting their communities is illogical and irresponsible.

2.2.8 Theoretical Criticisms, Contradictions and Key Studies

On a theoretical level Hillier (1973), attacks the use of territoriality as a 'behavioural universal'. He notes that it is easy to place oneself within this theory, particularly when no alternative exists; "like all universalistic theories, ...the idea has immediate attractions" (Hillier, p540). The lack of an alternative may mean "we might be tempted to look no further, and so remain ignorant of the fact that human territoriality is largely discredited" (Hillier, p540). Furthermore, Hillier claims that archaeological and anthropological evidence "almost universally supports the social view of man – that he is man because he is social, not that society is a device to restrain him from his natural excesses" (Hillier, p540-541). Hillier's rejection of territoriality is grounded in the origins of the theory – namely the science of ethology. This concerns the study of instinctual, conditioned behaviour in animals and for Hillier, this "provided a natural starting point for the revival of highly conservative theories of man, which argued that man is not a social being, but a brute restrained only by law and self interest, standing in permanent need of strong government, segregation from unsympathetic groups (e.g. jews or blacks) and even eugenic control" (Hillier, p540).

MacDonald and Gifford (1989) concur with Hillier in this respect and claim "there remains a lack of evidence that burglars are deterred by territorial displays" (MacDonald and Gifford, p194). They studied the views of forty-three people convicted of breaking and entering, analysing in detail issues such as road surveillability, occupants' surveillability, symbolic and actual barriers and traces of occupancy, as measures to test the concepts of territorial concern and surveillance. However, house value was the variable found to relate most closely to vulnerability although surveillability was supported as a defensible space feature (MacDonald and Gifford, p204). In common with studies by Phelan (1977) and Bennet and Wright (1984), however, territoriality was not supported. Symbolic and actual barriers may in fact assist burglars (MacDonald and Gifford, 1989). Hunter (1978) studied Liverpool's inner city and found that the 'defensible space' improvements that were implemented were destroyed, ripped up or stolen by other residents. He claims that territorial definition "may be fine for professionally qualified, sensitive persons but doesn't cut much ice with vandals, criminals and boisterous children" (Hunter, p677). Indeed, Perkins *et al.,* (1993) have demonstrated that territoriality can vary across and within neighbourhoods.

Putting the intricacies of the territoriality debate to one side, Newman has also been accused of failing to critically discuss the idea. Merry (1981) argues that Newman "is surprisingly vague about the process by which residents come to define space as their territory and act to defend it" (Merry, 398). Tijerino (1998) also claims the link between 'defensible space' and territoriality is problematic. He asks; "how does a sense of ownership for an otherwise public setting emerge in a person and/or group" (Tijerino, p327). However, Brown and Bentley (1993) found territoriality to be an important factor in the burglars' decision-making process and Taylor *et al.,* (1984, 1985) found variation in levels of territoriality in different socio-economic groups. 'High' and 'low' economic status groups both exhibited low levels of territoriality, while the 'moderate' socio-economic group possessed a higher degree of territorial sentiments. Clearly, this is an area which is highly complex and controversial, and in need of further detailed deliberation and study. Booth (1981) studied accessibility to public areas and opportunities to observe and asked how these two factors may facilitate crime. He claims that from Newman's work "it is possible to conclude that the built environment may encourage crime in public areas" (Booth, 1981, p558). However, Booth is critical of studies that have

examined the opportunity to observe, and claims that although this has been shown to be capable of deterring crime, this variable has been too narrowly defined. Waller and Ohikir (1978) concentrated on opportunities to observe from neighbouring units, Molumby (1976) and Frisbe *et al.,* (1977) evaluated the extent of opportunity to observe in relation to street lighting and shrubs, and Mawby (1977b) related the debate to vandalism of telephone kiosks. For Booth, therefore, "none systematically examine the many dimensions of opportunities to observe public areas that Newman proposes" (Booth, p561). He is also critical of Newman's omission of both the number of directions and the distance from which public areas can be observed, in addition to a lack of assessment of surveillance opportunities from windows, porches and doors. To redress this perceived oversight, Booth (1981) established five measures of accessibility and six of opportunity to observe. Those measuring accessibility were; boundaries (fences/shrubs), areas where dimensions exceeded 400ft, the presence of three or more people, signs of use and whether the public space was bounded by public facilities. Measures of opportunities were; whether a public space could be seen from; the street, more than one direction, over 50ft, from the door of a dwelling, the window of a dwelling and finally, visibility from the balcony of a dwelling. However, Booth found that "outdoor features of the built environment ... do not seem to facilitate or impede burglary or vandalism" (Booth, p565). According to Booth, Newman's second concept of 'surveillance' would seem to be of limited utility, at least for public spaces outside the dwelling; "both observational and interview data indicate that accessibility and opportunities to observe outdoor public areas, are not important factors in whether or not households will be the victims of a crime" (Booth, p565).

Public areas inside apartment buildings showed small differences "which suggest that easy access and opportunities to observe, facilitates crime" (Booth, p565). However, 'defensible space' is "a viable concept in preventing burglary and vandalism in some areas (public areas in apartment buildings), but not in others" (Booth, p568). Booth's study would appear to suggest that 'defensible space' may best be applied to public areas within apartment buildings, although since this was the area predominantly studied by Newman, perhaps this is not surprising.

Mawby (1977a) studied four estates in Sheffield and analysed the four-fold categorisations of Newman's 'Defensible Space' theory, claiming that it "fails to evaluate critically the possibility that these elements might contain contradictions within themselves" (Mawby, p176) Indeed, each category may well contain some dimension which threatens, as well as enhances security. Firstly, the capacity of the physical environment to create perceived zones of territorial influence. This defence is essentially directed at strangers and outsiders. However, legitimisation of the residents' presence could enhance the possibility of crime by residents against other residents – Mawby notes that it would certainly not act to decrease such incidents.

Secondly, the capacity of physical design, to provide surveillance opportunities for residents and their agents. Mawby (1977a) makes the point that "the same design might limit surveillance in one dimension whilst increasing it in another" (Mawby, p176). For example, in the Sheffield study, shops were situated with blocks of flats overlooking them – providing numerous potential witnesses to would-be crimes. Surveillance of crime in corridors without windows may indeed be minimal. However, although crime on landings may well be witnessed but not apprehended, such a crime may not have been witnessed in a low-density housing estate. In private housing a garden may provide a 'visible barrier' (of the private garden) where, once infiltrated, can reduce the possibility of being observed. This contrasts with the situation of flats, where break-in offences may be more difficult for two reasons. Opportunities for entry commonly include the front of the building, in contrast to a house, which might offer entry at front, back, second floor and windows etc. In addition, the relatively invisible corridor outside flats is 'public space' and more prone to possible interruption by other residents than the back garden of a conventional semi-detached house. Mawby uses this argument to raise the point that it is possible to hypothesise "that flats will have less crime committed on them" (Mawby, p176).

The capacity of housing layout and design to influence the perception of a project's uniqueness, isolation, and stigma is another consideration. More isolation may mean that non-residents are less likely to breach the barriers of the area. Mawby recalls that, as a non-resident researcher walking on the landings of flats, he felt more conspicuous than on the discernible roads on housing estates, where

passers by were more frequent. The work of Brantingham and Brantingham (1975) is used to illustrate this point. They found that burglaries were more often reported to have occurred at the perimeters of an area - where it was less easy to define and notice strangers, than in the 'heart' of the neighbourhood.

In the wider context, Mawby (1977a) is also critical of Jacob's and Newman's suggestion that as the number of those 'on the street' increases, so does the efficiency of policing by the public. It is therefore argued that under these conditions, offence rates subsequently fall. He notes that larger numbers of people may increase the number of possible witnesses, but it may also increase the number of potential victims and offenders and make offenders less readily discernible.

The influence of geographical juxtaposition with 'safe zones' on the security of adjacent areas is the final concept that receives critical analysis, but is not totally rejected by Mawby. He claims that the Sheffield project shows "that where high offender rates were close to areas with 'offence potential', offenders from the high rate areas might even commit less crime in their own areas, being attracted to more lucrative pickings nearby" (Mawby, p177).

Mayhew (1979) also questions some of the behavioural assumptions that underpin 'defensible space'. He makes the point that visibility to, and the possibility of apprehension by residents may not deter all potential offenders. Indeed, those under the influence of drugs or alcohol may decode environmental cues differently, if they decode them at all. Attitudes towards the police and residents' willingness to become involved are also questioned. Properties affording surveillance may not be constantly occupied, and if they are, criminal acts may not necessarily encourage the residents to actively attempt to locate such events visually, let alone contact the police. The main findings of various studies conducted in the 1970's are presented in Table 2.2.

Table 2.2 Key Studies Relating to Defensible Space (published 1970's)

Author (Date)	Focus of Study	Location	Main Conclusions
Gillis (1974)	Multiple occupation and delinquency.	Edmonton & Toronto	Deprived families dominated buildings.
Reppetto (1974)	Residential burglary rates.	Boston	No clear correlation between physical layout and crime.
Pablant & Baxter (1975)	Rates of forcible entry into 32 schools.	Houston	Street lighting and visibility to nearby residents important. Break-ins less likely in attractive schools.
Kohn *et al.*, (1975)	Alterations to 2-row housing projects (Markham and Clason Point).	New York	Generally beneficial, fear of crime fell.
Mawby (1977a)	Levels of vandalism of telephone kiosks.	Sheffield	Offender rate of area more important than design.
Mawby (1977b)	Burglary in 4 council estates- compared 2 high-rise and 2 low-rise estates.	Sheffield	High-rise no more at risk than SDUs. Reporting of crime higher. Offender rates important. Housebreaking less likely.
D.O.E (1977)	18 Council estates.	Lambeth	Design relevant but child density, caretaking and maintenance important.
Hunter (1978)	Improvements to 4 walk-up blocks of flats, gardens created on ground floor.	Liverpool	Depressing results, changes rejected by residents.
Waller & Okihiro (1978)	Victimisation of burglary in terms of defensible space.	Toronto	Little support for Newman's theory.
Wilson (1978)	Vandalism in 258 blocks on 38 council estates.	London	No clear relationship between design & vandalism. Child density crucial. Impact of design visible at lower densities.
Mayhew *et al.*, (1979)	Defensibility and vandalism of telephone kiosks.	London	Tenure of nearby housing more important. Child density implicated.

Source: From Mayhew (1979, pp153-55)

Table 2.3 Key Studies Relating to Defensible Space (published 1980's)

Author (Date)	Focus of Study	Location	Main Conclusions
Newman & Franck (1980)	Crime in housing developments.	San Fransisco Newark & St. Louis	Strong support for Newman's ideas.
Merry (1981)	Social factors in CPTED 'Undefended' 'Defensible Space'.	An East-Coast Port City (not named)	Social factors more important. Enthusiasm for CPTED should be moderated.
Booth (1981)	Accessibility and opportunities to observe public spaces.	Nebraska	May reduce crime inside apartments. Otherwise rejected as a 'sterile' concept.
Newman & Franck (1982)	Effects of buildings size on crime and fear of crime.	San Francisco Newark & St. Louis	Effect of building size not as important as expected. Social factors implicated.
Greenburg, Rohe & Williams (1982)	Comparison of physical attributes and territoriality in high and low crime areas.	Atlanta (Georgia)	Territoriality not a distinguishing factor in low crime areas.
Brown & Altman (1983)	Surveillance and territorial displays in burglarised and non-burglarised houses.	Utah	Strong support for both surveillance & displays of territoriality in non-burglarised houses.
Brower, Dockett & Taylor (1983)	Resident perceptions of territorial features and perceived local threat.	Baltimore City (USA)	Real barriers & territorial displays seen to reflect care. Efficiency depends on context.
Bennett & Wright (1984)	Territoriality as perceived by burglars.	U.K	Territorial displays not perceived as important by burglars. Surveillance important.
Coleman (1985)	Design Improvement Controlled Experiment (DICE).	London	Inconclusive - child density crucial.
Nee & Taylor (1988)	Perceptions of burglars regarding target hardening techniques.	Ireland	Target hardening viewed as being ineffective.
Normoyle & Foley (1988)	Defensible space & fear of crime in elderly public housing residents.	USA (nationwide)	Fear was lower among high-rise dwellers. Integrated old /young occupancy mix did not raise anxiety.
McDonald & Gifford (1989)	Deterrent effects of surveillability & territorial displays upon convicted burglars.	Victoria, Canada	Surveillance supported, territoriality no effect.

Table 2.4 Key Studies Relating to Defensible Space (published 1990's)

Author (Date)	Focus of Study	Location	Main Conclusions
White (1990)	Neighbourhood permeability and Burglary.	Virginia	Major arteries can attract burglars.
Perkins *et al.*, (1990)	Social and physical environment and participation.	USA	Criminals/residents perceive defensible space differently.
Perkins *et al.*, (1992)	Street blocks, perceptions of crime and disorder.	Baltimore City (USA)	Disorder-related cues increase fear of crime. Some support for defensible space.
Nasar & Fisher (1993)	Crime and fear 'hot spots'.	Ohio (USA)	Low prospect, high concealment and boundedness increases fear. Some support for defensible space.
Nasar *et al.*, (1993)	Physical cues to fear of crime.	Ohio (USA)	Trees, shrubs and walls provide concealment, blocked prospect and escape.
Brantingham & Brantingham (1993)	Nodes, paths and edges and crime.	Canada	Crime strongly linked to aggregate aspects of environment.
Perkins *et al.*, (1993)	Crime, defensible space, territoriality and incivilities.	New York (USA)	Defensible space and demographics important. Signs of territoriality and disorder, less so.
Nasar (1994)	Building exteriors and affective responses.	USA	Image and meanings attached to housing types varied.
Tsoskounoglou (1995)	Spatial vulnerability to crime.	London	Defensible space does not enhance safety significantly.
Harris & Brown (1996)	Home and identity displays and territoriality.	USA	Homes can reveal territoriality. Defensible space supported.
Perkins & Taylor (1996)	Community disorder and fear of crime.	USA	Physical and social incivilities increase fear of crime.
Ross &. Mirowsky (1999)	Perceived disorder and decay.	Illinois (USA)	Social and physical indicators can overlap and increase or reduce feelings of safety.
Ham-Rowbottom *et al.*, (1999)	Perception of Defensible Space concepts.	U.K	Cues not universally perceived by police/ resident or burglars.
Brown (1999)	Secured By Design.	Gwent	Support for SBD and defensible space.
Armitage (1999)	Secured By Design Housing Estates.	West Yorkshire U.K	Support for SBD and defensible space.
Pascoe (1999)	Secured By Design.	U.K	Support for SBD and defensible space.

Focusing on these issues may help in an analysis of the usefulness of Newman's theory. However, as Mayhew (1979) claims; "the empirical studies described have largely concentrated on surveillance and territoriality, ignoring the other major components of defensible space – the 'image' of the housing project, and its setting within the wider environment" (Mayhew, p155).

Table 2.3 reveals a different approach by such studies in the 1980's, with more of an emphasis upon territoriality and the fear of crime, although results appear equally inconclusive. A summary of some related studies in the 1990's (see Table 2.4) reveals a shift towards utilising social and physical indicators for 'incivilities' and disorder to implicate design-related elements from a perspective rooted in environmental psychology.

Theoretically speaking, it is not surprising that 'defensible space' has been controversial, as there are a plethora of hypotheses inherent within the theory. Rubenstein (1980) identified human perception, crime, fear of crime and territoriality as examples and described 'Defensible Space' theory as "a rat's nest of intertwining hypotheses" (Rubenstein, p6). The complex interplay that exists between the physical and social environment is problematic today; in the 1970's when Newman initially tackled 'defensible space' it must have seemed immeasurably more complicated. Tables 2.2, 2.3 and 2.4 clearly reveal that studies conducted over almost thirty years have persistently proved inconclusive, testament perhaps, to the sheer complexity of the subject matter.

This chapter has briefly outlined 'defensible space' theory and discussed the major criticisms that have been put forward. As previously stated, it is not the intention to reject this theory. The objective is to highlight the short-comings in order to foster a deeper understanding of what represents an integral and crucial theoretical component of a specific type of crime prevention strategy, which is beginning to be recognised and practised on a global scale.

The following chapter will analyse the development and increasing popularity of 'defensible space' theory in America and Britain and discuss the contemporary importance of this largely untested theory, which is a fundamental building block for SBD in Britain and CPTED throughout the world.

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Chapter 3

The Development of Defensible Space, CPTED and SBD

3.1 The Influence, Profile and Development of 'Defensible Space'

This chapter deliberates upon the reasons why 'defensible space' theory gained such widespread popularity, given the shortcomings already addressed. The development of 'defensible space' ideas in America and Britain are explored and its contemporary relevance investigated.

3.1.1 The Political and Academic Climate, Practicability and Accessibility

The increasing disillusionment in Britain and America, with existing frameworks for managing crime, arguably provided a window of opportunity for Newman and his disciples. The necessity to be seen to be intervening and attempting to address the problem in political terms cannot be understated. The highly visible nature of implementing design modifications as a potential solution was certainly an attractive characteristic.

Indeed, Mawby (1977a) notes that 'defensible space' "almost immediately caught the imagination of the press and television, not only in America but also in Britain" (Mawby, p169). He claims Newman's theory is explicitly directed at high-rise developments, thereby gaining support from the ever-growing number of critics of such developments (Mawby, p169).

In discussing the criticisms of Adams (1973), Bottoms (1974), Hillier (1973), Kaplan (1973) and Mawby (1977); Mayhew (1979), comments that; "despite these criticisms (which are perhaps not particularly well-known) Newman's ideas have had great appeal" (Mayhew, p152). Various reasons are suggested for this situation. Firstly, the ideas inherent within the theory of 'defensible space' can be located firmly within the domains of contemporary thought. "For academics, they fit in happily enough with a current emphasis - within psychology ... and criminology itself – on the importance of the environment in determining behaviour" (Mayhew, p152). Labs (1989) claims that apart from Jeffrey's publication 'Crime Prevention Through Environmental Design' (1971) "...criminologists ...had neglected ...the physical environment as a factor in criminal behaviour until they felt the commotion caused by Newman's breach of professional turf" (Labs, 1989, p100).

On a general level, in comparison with earlier works such as Jacobs (1961), Angel (1968) and Jeffrey (1971), Newman's views appeared to be infinitely more attractive, in that they do not involve major, urban reorganisation. In addition, such views "are highly persuasive and have the respectability of being backed by seemingly extensive empirical research" (Mayhew, 1979, p152).

Smith (1987) notes that Newman's theory is amenable to politicians across a wide range of the ideological spectrum. It is attractive to those on the 'right' "because environmental engineering provides immediate, visible and unambiguous evidence of a commitment to stamp out deviance" (Smith, p147). Furthermore, it does not make any demands to reorganise the social structures of society. For politicians on the 'left', it provides "a more acceptable scapegoat for today's supposed demise of law and order than the stereotypical vandal, the unemployed working-class youth" (Smith, p147). For any political party, such an approach represents visible, tangible and positive action being taken.

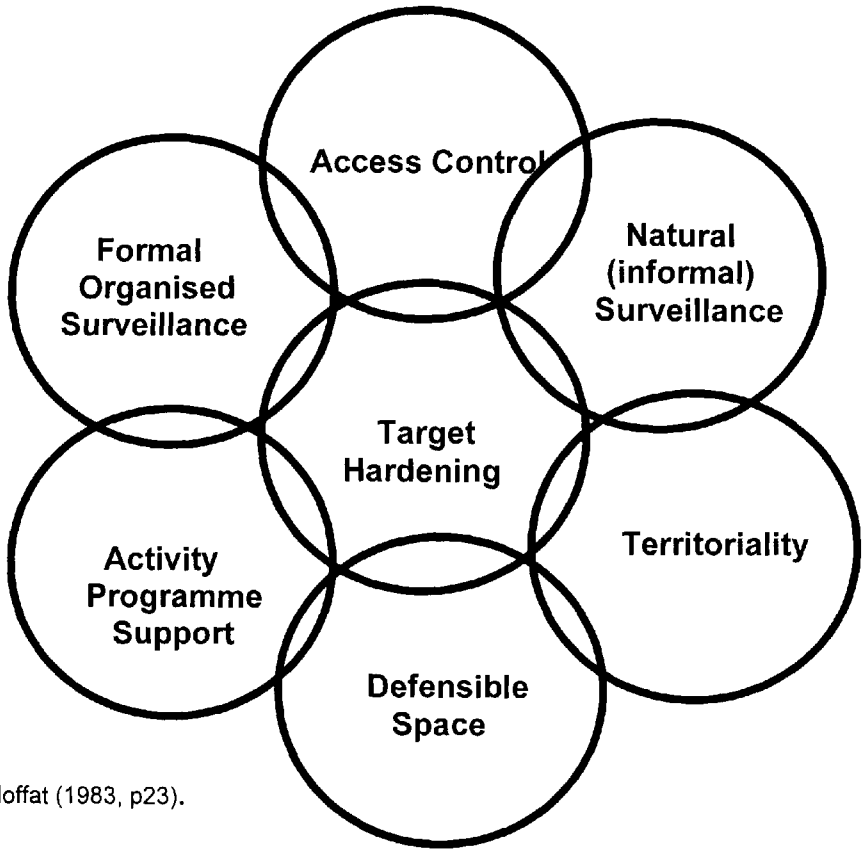
Operationalising methods to create 'defensible space' was an attractive feature of Newman's thinking for practitioners, which Mayhew (1979) considers may have influenced the continuing Federal financial sponsorship of his work, within the American research programme entitled 'CPTED'.

3.1.2 'Defensible Space' and CPTED in America and Canada.

Although the phrase 'Crime Prevention Through Environmental Design' (CPTED) was originally coined by Jeffery (1971), much of the theoretical and practical developments in this area have been based upon 'defensible space' and upon subsequent research. Jeffery (1976) argues that three sources can be traced. Firstly, from the academic community by way of a series of books, on environmental design (Jeffery, 1971), the geography of crime (Harries, 1974), and the spatial analysis of crime (Pyle *et al.*, 1974). Secondly, from Britain, where "since the early 1950's the British police (Koepsell-Girard, 1975) have been involved in crime prevention through the manipulation of the physical environment" (Jeffery, p149). The third source concerns architects such as Newman (1973) and Reppetto (1974). The similarities between CPTED and 'defensible space' are numerous and can be seen in Figure 3.1.

The potential to encourage social interaction via environmental design is succinctly revealed in the following quotation by Moffat (1983), which states "CPTED principles used in re-designing communities allow greater socialization which in turn helps to prevent crimes of opportunity" (Moffat, p21).

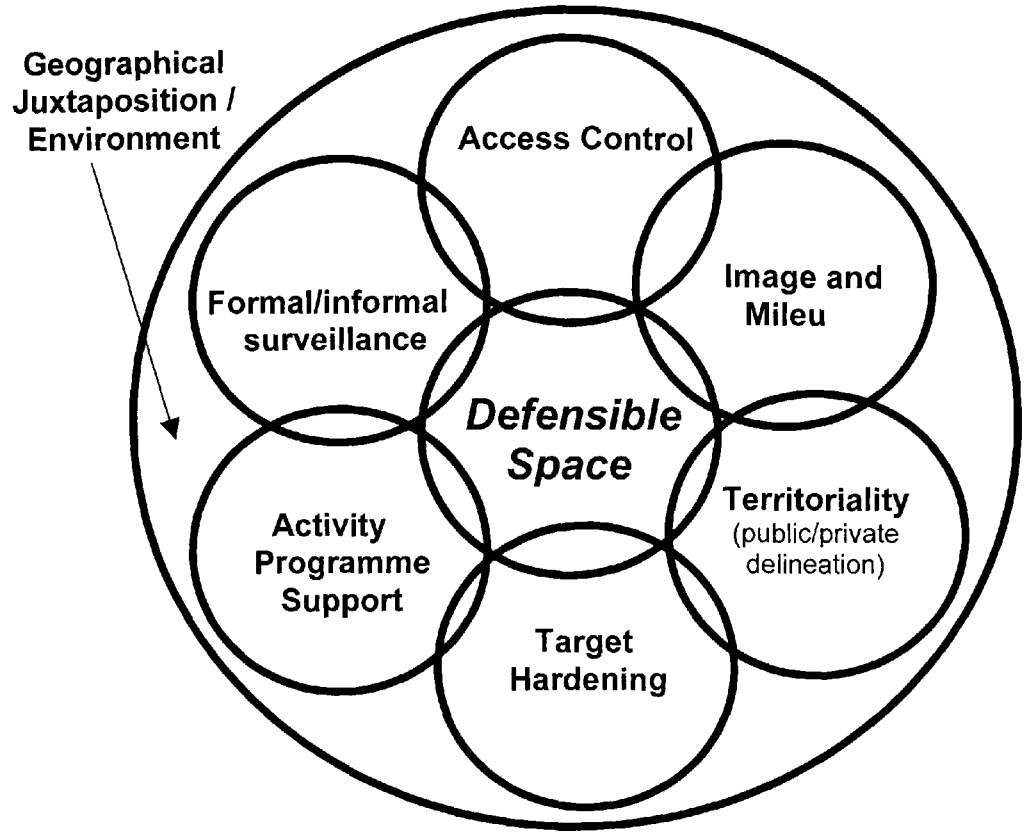
Figure 3.1 **The 7 Elements of CPTED**



Source: Moffat (1983, p23).

The theoretical foundations embodied by 'defensible space' were also apparent to Moffat (1983), who commented that "CPTED is divided into seven related areas where 'defensible space' is at the root of the concept" (Moffat, p23, see Figure 3.1). The only area within this graphical representation that may perhaps be considered to be peripheral rather than central to 'defensible space' is that of 'activity programme support'. The remaining six elements of Moffat's CPTED model can clearly and more easily be located within 'defensible space'. It is arguably more appropriately represented, however, by locating 'defensible space' at the centre, as expressed in Figure 3.2.

Figure 3.2 **Defensible Space Elements**



Source: Adapted from Moffatt (1983, p23) and Newman (1973).

CPTED pioneers for Saville (1998) include those such as Angel (1968), Jeffery (1971), and Newman (1973), with Jacobs (1961) attributed to highlighting the issue of the design of urban places and the possible link with crime. Indeed, Taylor *et al.*, (1980) have stated that "the concept of crime prevention through environmental design (CPTED), developed by researchers at Westinghouse (1976, 1977a, 1977b; Lavrakas *et al.*, 1978) is another version of second-generation defensible space theory" (Taylor *et al.*, 1980, p61). 'Defensible space' is central to CPTED, but in this refined and updated set of ideas, it is modified by the need for local resident / community support and involvement, as well as management assistance. Social 'defensible space' is also a feature, suggesting improvements to neighbourhood image, social interaction/control and raising community awareness of crime prevention issues.

Jeffery (1999) recently wrote on the subject of CPTED, and claims Newman's ideas were picked up by the US Federal Government via the Law Enforcement Assistance Administration, private corporations i.e. the Westinghouse Corporation

and by academics. He argues "these efforts at crime prevention were based upon Newman's concepts and not mine" (Jeffery, 1999, p1). Furthermore, the US Department of Housing and Urban Development and the US Department of Justice both expressed interest in the early writings of Newman (Newman, 1973 and Newman and Franck, 1980). Since the 1970's Cisneros (1995) claims "he has applied it in many locations and explored its applicability in considerable detail (Newman, 1980, Newman and Franck, 1980 and Newman and Franck 1982)" (Cisneros, 1995, p5). He comments that despite many successes, the approach never became popular. Indeed, Cisneros (1995) states that "for a time, in important policy circles, strategies stressing physical change simply became unfashionable" (Cisneros, p1).

However, 'Defensible Space', in the guise of CPTED in America, Canada, Australia and Holland, and SBD in Britain, is becoming contemporary and fashionable once again. "Today the pendulum seems to be swinging back to an increasing recognition that, in the right places, physical design does have a role to play in crime reduction" (Cisneros, 1995, p1).

Furthermore, Cisneros asserts that Newman's work has stimulated a "surge of new research and experimentation" (Cisneros, p3), referring in particular to the establishment of the 'International Crime Prevention Through Environmental Design Association' (ICA), which has now been followed by the 'Designing Out Crime Association' (DOCA) in the U.K. France, Italy, Japan and Sweden also have members, and the Asia/Pacific Chapter was launched in May 2000.

Various studies in the 1970's attempted to test Newman's ideas (see Chapter 2, Figure 2.1) and Taylor *et al.*, (1980) advanced the idea that there was now a distinction between 'first generation' and 'second generation' 'defensible space' (Taylor and Harrell, 1996). The latter introduced social and cultural features in the setting and "more realistic assumptions about territorial behavior and cognition" (Taylor and Harrell, 1996, p7).

Widespread implementation of 'defensible space' designs occurred in numerous locations such as parking facilities and public housing developments. However,

the expansion of the number of 'defensible space' designs was limited by a "lack of research about how potential offenders view or use physical features in question" (Taylor and Harrell, p9). Some researchers (e.g., Fisher and Nasar, 1992) have developed this area and introduced a threefold grouping of physical features; prospect (for the user), refuge (for the potential offender) and escape (for the user and potential offender) into the 'defensible space' theory. Taylor and Harrell (1996) conclude; "research confirms that fear is higher in locations that offer good refuge for the potential offender but low prospect and escape for the user" (Taylor and Harrell, p9).

In addition to housing design and block layout, the authors also identify three additional theoretical perspectives that have emerged in the area of physical design and crime. These are land-use and circulation patterns, resident-generated territorial signage (territoriality), and physical deterioration. In all these areas, elements of 'defensible space' can be clearly traced and identified. Perhaps the most influential of theories to be brought within the confines of CPTED is Wilson and Kelling's 'Broken Windows' thesis (1982). In summary, the theory contends that physical deterioration gives rise to safety concerns and a withdrawal by the community can occur. Further delinquency and vandalism occurs, along with increased deterioration and community withdrawal. Finally, potential offenders from elsewhere may then be attracted by the vulnerability of the area. Therefore, what began as one broken window, escalates to culminate in physical deterioration and social breakdown. Taylor and Harrell (1996) do note, however, that "little is known about how potential offenders 'read' physical incivilities" (Taylor and Harrell, p21). The relevance of Newman's ideas cannot be ignored within the four theoretical perspectives mentioned above, and instead of integrating these approaches, as suggested by Taylor and Harrell (1996, p24), re-evaluating an evolving and organic 'defensible space' theory may prove to be a significantly more pragmatic and judicious approach.

The labelling and categorisation of these overlapping theories is neither simple nor straightforward. However, Saville (1998), claims renewed interest in CPTED recently has resulted in "a more comprehensive, ecological approach for reducing crime niches" (Saville, p8). He claims this field is known as environmental crime

prevention, situational crime prevention and environmental criminology, or, more specifically, 'second generation CPTED'. Here, a risk assessment is required in addition to a consideration for displacement of criminality, which may occur. For Saville (1998), "it begins with environmental modifications to set the stage for reduced opportunities for crime niches, but it depends on additional social changes to maintain the impact of those modifications" (Saville, p8).

Saville and Sarkissian (1998) claim that the majority of Newman's restated ideas (Newman, 1995, 1996) are not new. However, the influence of 'defensible space' in modern CPTED thinking is clearly evident. "Most have become commonplace in jurisdictions where Crime Prevention Through Environment Design (CPTED) is incorporated into the planning process, such as in Florida, British Columbia, Canada and the Netherlands" (Saville and Sarkissian, p361). They also opine that Newman considers CPTED to be a component of 'defensible space' (Saville and Sarkissian, p361) but suggest this is just a case of semantics.

Saville and Sarkissian (1998) are also critical of Newman's original publication (*Defensible Space,* 1973) and more recent work (Newman, 1996). They assert that it is "physical determinism, working in isolation from criminological research, and occasionally working in isolation from the residents living in the conditions he is attempting to improve" (Saville and Sarkissian, 1998, p361). The authors also argue that Newman has ignored much of the new research in the field of CPTED (Clarke and Mayhew, 1980; Wilson and Kelling, 1982; Clarke and Hope, 1984; Brantingham and Brantingham, 1991; Clarke, 1992; Clarke 1994; and Saville, 1995). They point out that there was also disruption at his community meetings where "in some instances, the police had to escort me out for my own protection" (Newman, in Saville and Sarkissian, 1998, p362). They are further critical of Newman's lack of consideration for recent research in 'action research' where 'community building' is recognised to be much more than just physical design modifications (Sarkissian and Walsh, 1994; Sarkissian, Cook and Walsh, 1997; Sarkissian and Perlglut 1994; Saville, 1995). However, Newman's methods may have been highly individual and have certainly been widely criticised, but this does not justify such vitriolic treatment of the theoretical foundations of CPTED ('defensible space') or re-presenting the 'environmental determinism' debate. With

CPTED espoused by the ICA and selected states and 'defensible space' supported by U.S. Department of Housing and Urban Development and the Institute of Community Design Analysis, the academic 'turf' of 'design-affects-crime' has become somewhat 'territorial' in itself.

Recently, within the ICA, there has been some re-alignment on this issue, (Cozens *et al.,* 2000a, 2000b, 2000c) and 'defensible space' seems to be about to re-emerge to re-establish its position and status at the heart of the design-affects-crime debate. In Washington, a new initiative entitled 'Community Partnership Against Crime' (COMPAC) stresses the need for police/tenant partnerships and 'defensible space' strategies in crime prevention. "We have even made it a requirement that housing authorities prepare a project-by-project assessment of security needs, including a defensible space analysis, as a precondition for receiving assistance under COMPAC" (Cisneros, 1995, p25). In America, CPTED appears to be on the verge of embracing 'defensible space' once more; which must surely be a positive development, theoretically and operationally, for there is much to be discovered by a systematic and focused re-evaluation of the crucial components of 'defensible space' theory.

3.1.3 U.K. Initiatives and Coleman's 'Utopia on Trial (1985)

Escalating crime levels and the issue of 'problem', 'difficult', or 'run-down' local authority estates slowly became a political issue during the 1970's in Britain, and Rock (1988) claims Newman's 'defensible space' galvanised this response. He further claims "there was an elective affinity between his ideas an those stirring in the Home Office Research Unit (Clarke, 1982; Poyner, 1983). He also notes Poyner, Wilson (Wilson, 1978), Coleman (Coleman, 1985) and the National Association for the Care and Resettlement of Offenders (NACRO) (Osborn, 1986) "were all influential in lending structure to the spate of British initiatives and they all acknowledge their borrowings from Newman's work" (Rock, 1986, p101). Pascoe and Topping (1998) wrote that much of the crime-specific research carried out in Britain was based on 'defensible space' and particularly 'surveillance' (Pascoe and Topping, p164).

Rock (1988) and Shaftoe (1994) provide a useful summary of the initiatives in the

U.K which have been implemented that were influenced by these largely inconclusive ideas. The Department of the Environment (DOE) conducted various surveys of 'difficult to let estates' in 1974, 1976 and 1978. Social and Community Planning Research (SCPR) and NACRO funded by the Home Office, via the Urban Aid Programme, began work on the 'Cunningham Road Improvement Scheme' (Widnes) in 1976. Perceived success resulted in the establishment of the 'Crime Prevention Unit' in 1978, the 'Priority Estates Project' in 1979 and the GLC funded 'Safe Neighbourhoods Unit' (SNU) in 1980. By 1990, NACRO and SNU had carried out improvement schemes on over one hundred housing estates throughout England and Wales.

From 1985-1994 the DOE's Estate Action programme (not solely directed at crime reduction) aimed to implement social and physical improvements to transform 'run-down' housing estates. In 1986 the Five Towns Initiative was launched by the Home Office, broadening the estate-based programme. 1988 saw the introduction of the Neighbourhood Watch Scheme, whose household membership increased from 2.7million (14% of all British households) in 1988 to 4.1 million (20%) in 1992. In the same year The Safer Cities Programme was launched and funded a maximum of twenty cities for three years at £250,000 per annum.

The 1980's saw a boom in the private security sector and in 1986, sales were estimated to have reached £1,600 million, dwarfing the Government's Home Office spending of around £15 million on crime prevention for 1986. (Shaftoe, 1994). Target hardening devices such as alarms and CCTV presumably contributing considerably to these figures. Town Centre Management (TCM) programmes emerged in 1992, amidst another electronic security boom in the 1990's. Indeed, expenditure on CCTV accounted for £8.5M (67%) of the government's £12.6M spending on crime prevention in 1997 (Home Office, 1999).

In terms of these earlier initiatives (post 1990), in spite of the claims of successes in reducing crime generally, Rock (1988) cautiously notes, that since so many different individual improvement schemes were commonly implemented at the same time "it is impossible to conceive how those individual measures worked" (Rock, p109). The interests and ambitions of the various researchers, may also

nurture 'simplificationism' (Douglas, 1977), whereby "the result has been a succession of reports which offer simple, condensed glosses on what must have occurred, each gloss passing as an explanation for practical purposes" (Rock, p109). He raises the notion of 'working conjectures', where the behaviour and attitudes of criminals and tenant alike, are assumed by the respective authors. Coleman's (1986) criminals who 'feel they can be identified' and those of Burbidge (1984) who 'see a place where they will face little hinderance' may be assumptive. Rock (1988) argues "it would be prudent to establish that criminals and tenants make use of logic and behave in the way that they are supposed to" (Rock, p110). In summary, he comments that "while there is much to commend an approach which focuses on the 'factual' and the 'objective', it leads to a form of 'self-censorship' of soft data" (Rock, p110). During the operation of such initiatives, monitoring and observation are limited and "what is 'banned' consists in the main of evidence that is thought to be too personal, subjective and qualitative" (Rock, p112).

The work of Coleman (1985), was perhaps most important in popularising and developing Newman's ideas in Britain. Her ideas were well-received; stimulating the multi-million pound 'Design Improvement Controlled Experiment' (DICE), carried out by the Land Use Research Unit (LURU) to put her theories into practice on a number of housing estates in London. The willingness of housing authorities to act on Coleman's findings and her ability to attract the considerable resources for the 'DICE' programme is testament to the influence and re-emergence of many of Newman's ideas. Owens (1987) observes that "however erroneous her methods, the enthusiasm of politicians for simple ... solutions to the complex question of housing has given her ideas an influence many of her opponents might envy" (Owens, p87). Similarly, Campbell (1993) states that "Coleman became a star in the Eighties, employed by the Conservative Westminster Council to rehabilitate the massive and troubled Mozart estate, and well resourced in her research by the Government" (Campbell, p316).

In common with the American experience, 'defensible space' in Britain did not always perform as positively or effectively as anticipated. The riot-prone territories of the 1980's, such as Broadwater Farm Estate, seemed to vindicate the 'design-

affects-crime' approach, while in the 1990's, for the Blackbird Leys Estate in Oxford, "their problem was not design so much as management" (Campbell, p316). Similarly, the Scotswood Estate in the North East of England, did not conform to the design-affects-crime prediction, where the suburban "dwellings were a monument to the Coleman model of defensible space" (Campbell, p316). Here, there were few high rise blocks (traditionally associated with high crime rates and therefore considered as representing 'bad' design) yet still relatively high crime rates and eventually, riots. According to Campbell (1993) this example showed that the problems were "not manifest in buildings but in social relations" (Campbell, p316). She also notes that by the onset of the riots in 1991, almost four hundred households had relocated due to feelings of endangerment. It therefore seems apparent that effective environmental management procedures are required to maintain defensible space – as Newman himself had commented (Heck, 1987), if only in relation to the high-rise developments in his original study.

Poyner and Webb (1991) studied suburbs and new towns in Britain, and put forward twelve design features that were purported to reduce crime – all arguably variations or adaptations of 'defensible space' concepts.

A more recent survey conducted by Spring (1997), analysed one of the seven housing estates in London that were redesigned by Coleman at the request of the DOE in the early 1990's. He claims that the "Ranwell East Estate falls well short of her claims" (Spring, p46). Coleman (1985) claims that other factors, such as unemployment, are important in explaining crime rates. However, "... design modification would need to bring about only a 10% drop in levels of litter, graffiti, vandalism, excrement and the number of children in care to achieve more than all the utopian efforts of government over the last forty years" (Coleman p12). She cites the seminal descriptive work of Jacobs (1961) and the seemingly, ground breaking and quantitative work of Newman (1973), in her analysis of urban space.

According to Coleman (1985), Newman advanced three principles which might "discover which design features attracted the most crime or vandalism" (Coleman, p14). Firstly, the impersonal character of areas or their 'anonymity' could affect crime rates. More specifically, the size of block or estate was important for

Coleman, who claimed that "anonymity feeds on size" (Coleman, 1985, p14). This category also included the number of people using the same entrance rather than population density per se, and the number of storeys in the block. Drawing on Jacobs' concept of private / public property, Newman (1973) also claimed the extent to which grounds and communal areas of the building are shared and defended by different households also affects anonymity in that it increases as the number of shareholders increases. Secondly 'surveillance' (Jacobs' terminology referred to this as "eyes on the street") involves visibility. The presence of internal corridors (invisible from the street) and the position of the entrance and building in relation to the street are important aspects. Finally the existence and character of 'alternative escape routes' can prompt criminals to become more audacious. Inter-accessible lifts, staircases and exits are identified and it is claimed that as these multiply, so does crime and the potential for crime. Where a block in Newman's study combined all three of these "alienating mechanisms" (Coleman, p16), crime would be at its highest. In addition, Coleman claims that Newman went on to establish a causal link and showed that if one or more of the implicated design features were ameliorated, the crime rate would subsequently decline.

However, Coleman argues that Newman's work was not, at first, well-received in Britain. A Home Office Study conducted by Sturman and Wilson (1976) studied 52 housing estates in London and the findings largely supported Newman's work. However, they discovered that one socio-economic factor was more important than design - the density of children in the environment. For Coleman (1985), British housing authorities and councils began to heed the advice and reduce child densities while "there was an unfortunate neglect of design modification" (Coleman, p17). In her own study of 4,099 units in blocks of flats in London (comparable sample size to Newman), Coleman reached similar conclusions and in addition to anonymity, escape routes and lack of surveillance, she added the disturbance of child-rearing practices as a fourth mechanism. For Coleman, the first three show that certain designs are vulnerable to crime while the fourth explains how problem estates can breed their own anti-social elements which can lead to increased levels of crime and delinquency. "Child density definitely contributes to high levels of abuse in badly designed dwellings" (Coleman, p173). Indeed, child density to some extent may be considered as a surrogate variable for

poverty or income, and it is undoubtedly a social factor. The subject matter and importance of socio-economic factors are discussed more extensively in Chapter 4.

Coleman's work, however, has received similar criticisms to those levelled at Newman. Hillier (1986) asserts that "her method of quantification of malaise is flawed, her correlation's largely illusory and her attempt to test for social factors desultory" (Hillier; 1986, p39). A methodology which utilises and measures the occurrence of litter, graffiti, urine, faeces, vandalism and children in care in the environment as indicators for the presence social problems, may represent a commendable approach. However, when the hypothesis expands to implicate design as a causal factor for crime, based on such unsubstantiated crime indicators, the conclusions drawn become inappropriate and arguably absurd. Bottoms and Wiles (1988) illustrate this point succinctly, "despite the rhetoric about 'crime' ... there are no data about crimes other than vandalism except in one short section" (Bottoms and Wiles, p86). More importantly, an inadequate consideration of social variables also weakens her claims. Owens (1987) also raises the issue of care-taking and management of estates, another factor neglected in Coleman's analysis, which may be as important as changing the physical fabric itself. The Quandrant Estate, in Tower Hamlets, a mixed development of four thousand dwellings had six porters and a resident caretaker in 1953, but by 1982 had only one caretaker. Indeed, Rock (1988) claims that there has been a centralisation of management services since the 1960's. "...over the last fifteen years, many local authorities, mainly in urban areas, have withdrawn rent collectors, resident caretakers, repair men and managers to central offices or town halls" (DOE, 1984, quoted in Rock, 1988, p100).

In a more recent article it was reported that "today the Mozart Estate resembles an enormous building site" where a £25M renovation scheme, courtesy of Westminster council, has meant "the old blocks of flats connected by walkways are being replaced by two-to-three bedroom houses that have their own gardens" (Barrowclough, 2000, p38). The relevance of Newman's ideas is perhaps reflected in the comparison with Ocean Estate, a run-down, series of deck-access flats. Here, similar unemployment and drug problems have been experienced, and

Labour's New Deal scheme has set aside £10 million to upgrade it. The proximity of the Mozart Estate to Maida Vale and the West End is considered to be a contributing factor to its regeneration, while the Ocean Estate is in the East End's more deprived borough of Tower Hamlets. Newman's fourth 'defensible space' element 'geographical juxtaposition' would seem to have relevance in this regard. On a positive note Barrowclough (2000) concludes "the regeneration of the Mozart shows that it is not impossible to turn around – as long as the people who live there have an interest in doing so" (Barrowclough, p38).

Pascoe and Topping (1998) have recently noted that "in the U.K., Coleman and Poyner have explored defensible space in depth (Poyner, 1983; Coleman, 1985; Poyner, 1986; Poyner and Webb, 1991)" (Pascoe and Topping, p163). Both argue that design modifications can reduce crime, Poyner arguing that design can *offer* or *deny* opportunities for crime, while Coleman opines that design can actually *cause* anti-social behaviour, and is therefore more deterministic in her stance (Coleman, 1998).

An initiative developed as a result of this research in the U.K, CPTED developments in America and the underpinning theory of 'defensible space'. This initiative has become known as 'Secured By Design' (SBD).

3.1.4 The Secured by Design Initiative in the U.K.

A relatively recent development which is directly influenced by Newman's ideas is the 'Secured by Design' initiative, launched in 1989 "by police forces in the South East of England to counter household burglary" (Pascoe and Topping, 1998). Concomitant with this initiative was the gradual introduction of Architectural Liaison Officers (ALOs) within the forty-three police forces in England and Wales. Two lines of thinking are involved; the geographical and the behavioural. Firstly, environmental criminology (in Britain this is a component of the situational perspective) and "emphasises spatial location and concentrates on the location of victims and offenders within the environment" (Pascoe and Topping, 1998, p163). Secondly, the behavioural approach analyses the decision-making of offenders.

The introduction of SBD firmly reasserts the belief in Newman's ideas. It is a

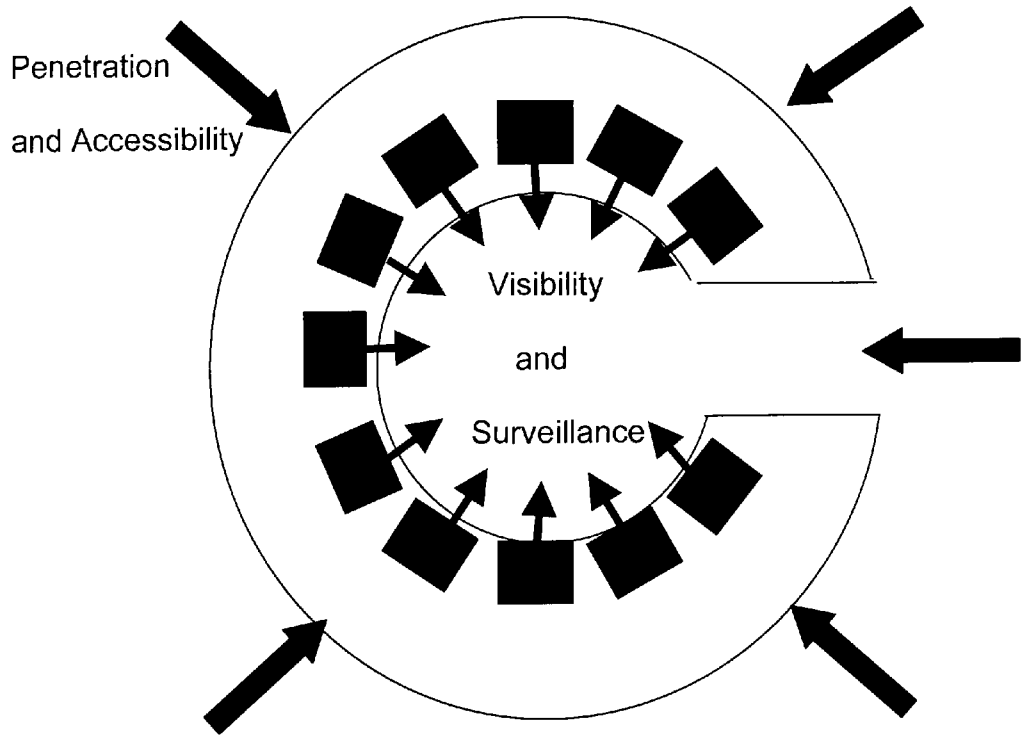
scheme whereby the police offer advice (which it is not obligatory to accept) to housing developers concerning new house building projects. In Wales, however, SBD has now been adopted for all new social housing projects. Steventon (1996) claims "defensible space is a principle of crime prevention that has become embodied in current public policy through 'Secured by Design'" (Steventon, p235). More recently, Armitage (1999) in her study of SBD housing estates in West Yorkshire notes the link with 'defensible space'. She argues that community interaction, social cohesion and informal control can ensure that offenders do not feel comfortable and anonymous "through maximising what Newman ... referred to as 'defensible space' and territoriality" (Armitage, p4).

Three contemporary SBD evaluations have all reported positive results in terms of reduced crime levels (Armitage, 1999; Pascoe, 1999 and Brown, 1999), and the initiative has gained further support and momentum in that it is now obligatory for social housing in Wales to be built to SBD specifications. However, an important consideration here is that the police and SBD practitioners are passing on advice that has not been based upon unequivocal evidence, in spite of these commendable and influential studies. At a recent debate on 'Crime and the Environment' (New Scotland Yard, 2000) it was tentatively accepted that SBD can be effective, although discovering and understanding the precise reasons why, was still an important research objective. At the conference, Brown highlighted the lack of understanding for the current theoretical support for SBD, reiterating the crucial importance of 'defensible space' (for a review see Cozens and Plimmer, 2000).

An issue currently being debated within SBD is the 'private' cul-de-sac versus through-road configurated housing. The recent, and continued support for 'enclavisation' in the form of the cul-de-sac, is attacked by Steventon (1996), on a variety of practical and theoretical levels. The lack of security at the rear of properties and the interconnecting pathways between cul-de-sacs are two such criticisms. Furthermore, the reduction in 'community' in the wider context, as a result of their often private isolation, reduces the defensible nature of such designs. Indeed, Pascoe (1993) claims streets of terraced properties arranged in grids are considered by burglars to be more secure than many cul-de-sacs. Hillier

(Fairs, 1998) is also in agreement on this issue. However, Newman's perception of the 'private' cul-de-sac as the optimum design representation of 'defensible space' can be challenged. Since 'defensible space' involves the perception of territoriality, surveillance opportunities and 'image', differing interpretations of what configurations are the most effective, may exist. Indeed, this area is a stated research aim. Below are three models to graphically illustrate aspects of territoriality and surveillance and the configuration discussion.

Figure 3.3 The Defensible Space Model (the cul-de-sac or 'enclave')

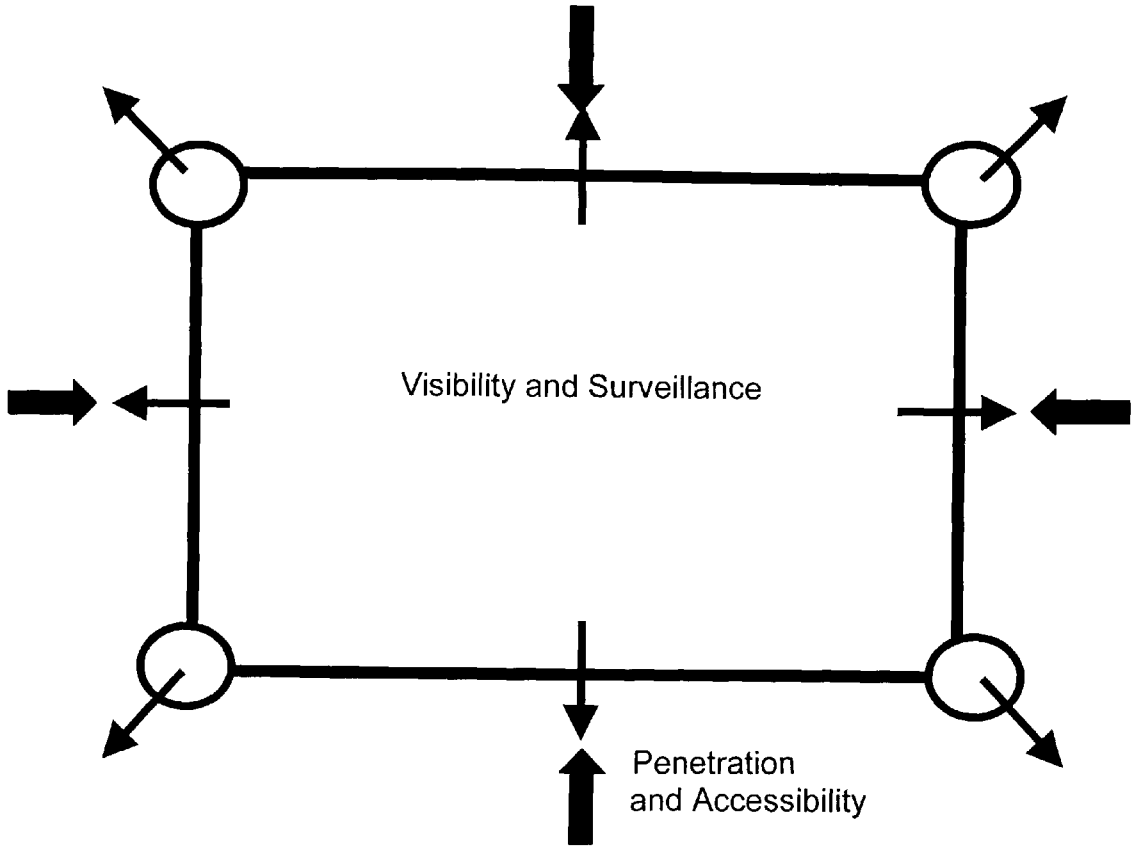


Source: From Steventon (1996, p242)

In the cul-de-sac or 'enclave' design, represented in Figure 3.3, Steventon (1996) notes how surveillance to the rear of the property is diminished and the inward focusing of the design exposes this shortcoming. Evidence suggests that over half of all burglaries occur at the rear of dwellings (Mayhew *et al.*, 1993) which leads Steventon to comment that "a model that deliberately exposes its back to predation seems somewhat perverse" (Steventon, p242). Research being carried out at the University College London, by Hillier's Space Syntax Laboratory,

similarly casts doubt on the design of the 'enclave'. They claim those living in cul-de-sacs linked together by pathways are more at risk from burglary (Fairs, 1998). A burglary ratio of one in eight, compares to one in ninety-two, for properties on linear, through carriageways, with buildings on both sides; namely, typical terraced housing (Building Design, 1998).

Figure 3.4 The Traditional Defensive Model



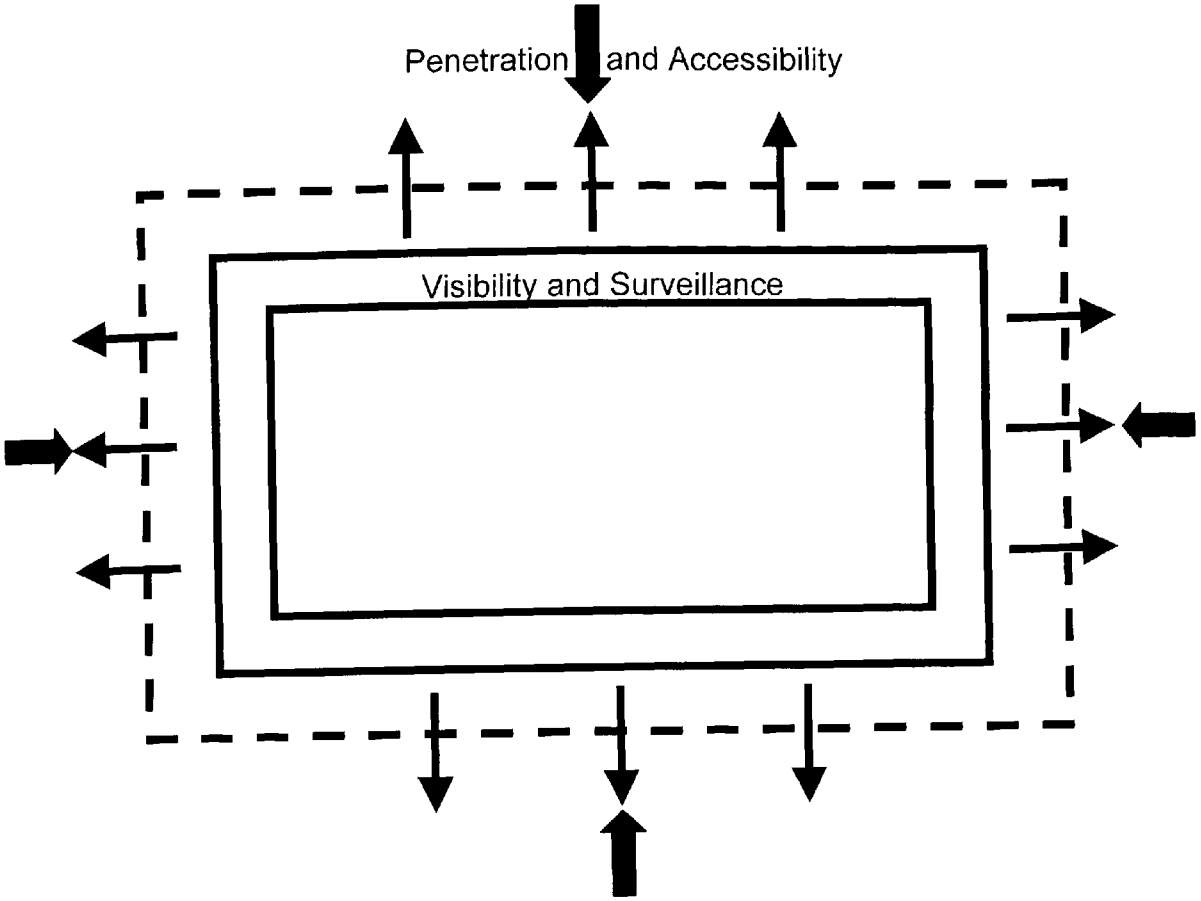
Source: From Steventon (1996, p242).

Figure 3.4 shows the traditional 'defensible space' model; the fortified castle. Although relatively obsolete in the twenty-first century, 'walled' or 'gated' communities may well be a feature of the future (Shearing, 1996; Steventon, 1996).

Steventon (1996) sets out the advantages of the perimeter block (Figure 3.5), claiming such a design "offers rear security, good surveillance of public areas, and opportunities for social interaction" (Steventon, p243). Steventon therefore claims that the prevailing belief that such terraced designs are at odds with 'defensible

space' theory is the main reason for the exclusion of the perimeter block model from SBD advice. The findings from this research may challenge this exclusion.

Figure 3.5 **The Perimeter Block Model**



Source: From Steventon (1996, p242)

Steventon (1996) also opines that a high level of accessibility in suburban housing developments is not appealing to policy-makers because it does not exclude strangers. These must be excluded because offending occurs largely in areas where offenders live (Bottoms *et al.*, 1992; Hope, 1995) and by implication, the criminal would therefore represent a stranger from outside these relatively crime-free areas.

Steventon (1996) contends that most architectural liaison officers have little or no formal training. What is provided, is limited to a five day course that teaches attendees how to read site plans, make a planning application and upon specific 'defensible space' criteria "set in tablets of stone" (Steventon, p243). Finally, the

usefulness of SBD is questioned in low-income inner-city housing areas subject to higher crime rates "it appears that current policy in the form of the police initiative 'Secured by Design' is targeted more at suburban housing" (Steventon, p235). The recent agreement by Tai Cymru (Welsh Housing), to build all new social housing in Wales to SBD standards does, arguably, represent progress in this regard. Since 1989, 35,000 homes have been constructed to SBD standards on 3,700 estates involving 630 building companies (Pascoe and Topping, 1998). However, disappointment at the lack of impact of SBD in the private sector has been expressed by the government (Michael, 1999).

Numerous policy guidance is based upon Newman's ideas and they include; the Home Office's Police Architectural Liaison Manual of Guidance (Home Office, 1987) and the Government's circular 'Planning Out Crime (DOE, 1994). Furthermore, the British Standards Institute's BS8220 'Guide to the Security of Buildings' (BSI, 1998) and the European Committee for Standardisation's CEN/TC325 'Prevention of Crime - Urban Planning and Design, Part 3 - Dwellings' (CEN, 1999), are both currently under discussion. A pragmatic technical guide for designing secure residential environments has also been produced (Crouch *et al.,* 1999). In September 1998, the DETR Bulletin No.32 (The Layout of Residential Roads and Footpaths) (DETR, 1998a) suggested restricting the cul-de-sac design, in favour of high density terraced housing (Milne, 1999). However, Pascoe and Topping (1998) commented that the cul-de-sac represents "the preferred option for most crime prevention officers" (Pascoe and Topping, p166). Such developments and reference to Chapter 2 (Figures 2.2, 2.3 and 2.4) indicate that studies that utilise recorded crime data can produce varied, and often contradictory findings. This arguably reiterates the crucial element of perception within 'defensible space'. The effectiveness of SBD has arguably been demonstrated, and a more widespread adoption of the scheme can only be considered a positive step. However, it is prudent and necessary to recognise the relatively untested theoretical underpinnings and put such ideas through a rigorous testing and evaluation procedure. A deeper understanding of why SBD works in the British context may then emerge. This is of increasing importance in consideration of the Government's latest draft version of Planning Policy Guidance Note 3: Housing (PPG3). According to Milne (1999), this "aims to give planners the right to dictate

density, design and mix" (Milne, p32).

3.1.5 Inter-Disciplinary Discourse

The continuing lack of interest of criminology, towards the 'defensible space' theory also warrants discussion. Reppetto (1976) notes that the design-affects-crime debate has received considerable attention in recent years, however, this has "to a large extent, been ignored by criminologists" (Reppetto, p275). Bottoms and Wiles (1988) concur "traditionally, criminologists have shown relatively little interest in the housing market, or housing-based crime prevention programmes" (Bottoms and Wiles, p85). Reppetto (1976) argues that in spite of numerous studies linking crime and urban design; " ... the criminological community has tended to reject or ignore design theory" (Reppetto, p280). Indeed, as Mawby (1977) notes, the theory of 'defensible space' is "not by a criminologist but by a planner" (Mawby, p169). Reppetto (1976) offers three reasons for this apparent indifference.

Firstly, the nature of criminology itself. The field of planning and architecture provides the most committed support for urban design theory, however; "this is a discipline that has no tradition of interaction with criminology" (Reppetto, p281). This situation suggests; "it is therefore understandable that criminologists would find designers' methodology weak and the discussion of various criminological problems deficient or non-existent" (Reppetto, p281). For Reppetto, scepticism of CPTED by criminologists is understandable on a theoretical level, but it is another matter to ignore its potential policy pay-offs.

Secondly, incorrect perceptions of the nature of crime prevention via urban design have also contributed to its rejection. For Reppetto (1976), "negative connotations of a deeply segregated community" (Reppetto, p283) have evolved from a misreading of the theory and an overemphasis on target hardening and fortification. Furthermore, he claims that attempts to view urban design theories, as forms of government pacification are not supported in the writings of Newman.

The third reason suggested for the rejection of such theory by criminology involves the practical problems of implementing design changes. Construction costs are

involved in remodelling or new building projects and delays often occur in the planning, approval and construction cycle. Dislocation of businesses and industry is common, and unknown 'sunkcosts' can occur. These concern physical changes, which are later proven ineffectual and prove costly to amend. Thus, urban design "may cost a million dollars, take two years, disturb several hundred people and produce no guarantee of success" (Reppetto, p285). While additional police patrols are seen as quicker and cheaper and dislocate no one, they too offer no guarantees of success. According to Reppetto (1976), "crime prevention through urban design, when contrasted with alternative methods, may be perceived as costly, slow, undramatic and unwieldy" (Reppetto, p285). He calls for the detailed auditing of the physical environment where particular crimes have taken place. One example might be whether a robbery was next to a vacant lot or a busy intersection or information concerning the location of robberies *within* a block of flats. He claims such an approach; "would have the inevitable effect of focusing the attention of the criminological and criminal justice community on design factors and would stimulate increased dialogue between them and the urban design community" (Reppetto, p286). Indeed, the lack of availability of crime data at the microscopic level, has largely prevented Newman's work from being tested or validated in Britain. Recently, the government have stressed the desire to make data available at smaller units of analysis to facilitate more accurate monitoring of social data (including crime), and therefore more focused policy responses (Wintour *et al.*, 2000). However, even if such information were readily available, it would nevertheless be highly problematic to draw coherent conclusions from such a complex array of data sets, which are arguably of questionable accuracy and utility (see Chapter 4 for further discussion). Conversely, it is also arguable that changes in this area would nevertheless improve the situation marginally, though caution should always be applied when utilising recorded crime data.

3.1.6 New-Build Housing - Opportunities for Evaluating SBD and CPTED

The recent government report 'Projections of Households in England to 2016' estimates that 4.4 million new homes will be required (DOE, 1995). Considerable disagreement has ensued regarding where such developments should be constructed, in addition to a comprehensive debate concerning ideas such as 'new urbanism' and aspects of land-use diversity. Until recently, however, debate and

documentation has tended to ignore a consideration of the actual design of these proposed residential developments. Indeed, Carmona (1999) has reported on three such contemporary documents for residential design; 'Kerb Appeal: The External Appearance and Site Layout of New Houses' (Popular Housing Forum, 1998), 'Housing Layouts – Lifting the Quality' (Planning Officers Society *et al.,* 1998) and 'Places, Streets and Movement. A Companion Guide to Design Bulletin 32: Residential Roads and Footpaths' (DETR, 1998b), claiming "the flurry of recent activity witnessed by the funding (part-funding) of the three publications ... suggests a willingness by central government once again to engage in residential design concerns" (Carmona, p54). More recently, Lord Roger's report entitled 'Towards an Urban Renaissance' (DETR, 1999) has recommended a national campaign in order to improve design. "New urban developments, on brownfield or greenfield land, must be designed to much higher standards if they are to attract people back into our towns and cities" (DETR, 1999). This commitment to 'better quality housing' was reiterated further in a recent government press release (DETR, 2000).

Notwithstanding their undoubted value and significance, these publications have provided little in the way of a meaningful contribution to addressing the ubiquitous problem of crime. Testament in part, to the inadequacies of past design 'crusades', the Social Exclusion Unit's report 'Bringing Britain Together: A National Strategy for Neighbourhood Renewal' (1998), has identified over 3,000 'problem' housing estates, some being highly criminogenic. The history of urban residential housing design has, therefore, indicated that certain designs are persistently more criminogenic than others or that they are allowed to become so by inappropriate allocation policies and poor management procedures. Indeed, Du Plessis (1999) has recently claimed that crime should be considered as an integral component within the concept of 'sustainable development'

SBD (now a limited company working for the British police), has recently been validated by the Building Research Establishment (BRE). Indeed, the emerging area of CPTED has noticeably grown in popularity and is finding support from such as the Home Office, the Royal Institution of Chartered Surveyors (RICS), police and planners. Moreover, the amalgamation and standardisation of elements of

urban planning to 'design out crime' is forthcoming. British standards (BS8220) and European standards (CEN/TC325) are both in the process of final detailed deliberation. As Cozens *et al.*, (1999a, and 1999b) have opined, new-build housing projects may well represent the opportunity for more rigorous assessment and refinement of SBD and 'defensible space' initiatives.

3.1.7 Conclusions and Further Development of Proposed Research

Critical analysis of the history and development of Newman's 'defensible space' concept certainly illustrates that measuring the impact of design upon criminality is a highly complex and intricate affair. Indeed, as previously discussed, experience in America and Britain testifies to this fact.

Newman was able to analyse detailed statistics on physical design, tenant population and crime data collected by the NYCHA (New York City Housing Association). The adequacy of Newman's interpretation has been questioned, however, the issue, perhaps, is whether comparable data is available in Britain at such a microscopic level, and whether a more robust study can ensue. Heck (1987) reviewed Newman's work and notes comments that he made with regard to 'falling into' this data set. "I was lucky, I had no idea how lucky I was...nobody else keeps such detailed and consistent records" (Newman, in Heck, p30). Indeed, the situation in Britain may not facilitate comparison, as Coleman (1985) observes; "London authorities are sensitive about high levels of social malaise and withhold information that may be available elsewhere" (quoted in Heck, p30).

With reference to the 'image and milieu' of social housing in America, Newman noted "the stigma of poverty and minority group membership has been stamped onto public housing" (Newman, 1973 p15). This aspect of 'defensible space' has largely evaded critical evaluation and investigation relating to different housing designs. As such it is posited that a deeper understanding of the stigma and 'image' of various British housing designs will provide unique insights into the criminogenic capacity of urban space.

In summary, Krupat and Kubzansky (1987) argue that "designing defensible space is neither the panacea that some proponents have hoped, nor is it as irrelevant to

crime and fear as some detractors have contended" (Krupat and Kubzansky, p61). It is postulated here, that 'defensible space' should perhaps be considered as a crime prevention strategy, which can produce variable levels of effectiveness, as is clearly the case with all other crime prevention strategies. Chapter 2 has demonstrated that the theory of 'defensible space' can be criticised in its application both in terms of theory and practice. Mawby (1977a) claims "the concepts used in studies of the relationship between design and crime need considering in much more detail" (Mawby, p177).

Much research has contributed towards advancing knowledge in this field in both Britain and America, and SBD and CPTED are more robust and holistic as a result. In America, Canada, Australia, Japan and the Netherlands, CPTED is increasingly being operationalised as a crime prevention strategy for retail, commercial and residential development, in addition to organised social events, such as music festivals and public functions. Significantly, CPTED has also been adopted for the Sydney Olympic Games in 2000, in the planning of venues, housing and transportation (Crowe, 2000)

Crowe (2000) reiterates the importance of Newman's ideas, commenting that "CPTED, in its modern form, was developed as an extension of 'defensible space' concepts to retail commercial, industrial institutional and low-density residential environments" (Crowe, p5)

The adaptability of Newman's ideas is perhaps reinforced by the fact that the US Fire Administration currently utilise 'defensible space' to combat 'wild land' fires via strategic property and landscape maintenance. Crowe (2000) also notes similarities regarding the nature and interpretation of positive and negative environmental cues between CPTED and the contemporary space/design concept of 'feng shui' (Crowe, pp107-109).

In America, there has been a relatively recent increase in premises liability cases, where landlords, employers and others, are being held liable for failing to take adequate security measures to prevent criminal attack on guests and tenants (Kennedy, 1993). Such a development in Britain and elsewhere would have

obvious and far-reaching impacts upon planning, criminal justice agencies and residents alike. Crucially, some American and Australian cities have also included CPTED as an integral part of their legal and planning systems (Crowe, 2000).

However, the theoretical foundations of 'defensible space', that are entrenched within the philosophies of both SBD and CPTED, remain largely untested. Research studies continue to elucidate both positive and negative conclusions regarding the effectiveness of design-affects-crime initiatives. Indeed, as Ekblom (1995) comments "hard evidence from good-quality evaluations is lacking" (Ekblom, p116).

Regarding the changes to the design of the built environment suggested by Newman, Adams (1973) posits that they are "quite reasonable but they should be considered as experimental proposals rather than embraced as a panacea" (Adams, p268). 'Defensible space' should be regarded "as a first approximation rather than as a definitive and conclusive study" (Adams, p268).

What is required therefore, is a fundamentally more holistic approach that tries to combine an analysis of the design of space with a consideration for the social milieu. If such socio-economic statistics are available at the microscopic level, progress may be made in this regard. However, an alternative instrument may well require formulation to investigate and understand the complex area of crime and the design of the built environment should this course of action prove problematic.

Harvey (1973) claims; "we need an adequate analytic framework for coping with the complex problems at the interface between social and spatial analysis" (Harvey, p44). He notes the work of Gans (1969) who, referring to people in the urban space, comments that "... their behaviour is not determined by the buildings, but by the economic, cultural and social relationships within them. Bad design can interfere with what goes on inside them, and good design can aid it, but design per se does not significantly shape human behaviour" (Gans, 1969, p33-46). Firstly, interpreting what 'significantly' means is highly problematic and secondly, 'defensible space' as a crime prevention strategy, does not have to *determine* behaviour, merely *influence* it by encouraging community cohesion and social

control to reduce crime and the fear of crime by sympathetic housing design and configuration. Moreover, it is contended that the seesawing of sociological and criminological thinking, from social to environmental determinism, is damaging to the study of crime and is cyclical, rather than progressive. Arguably, such debate is not central to 'defensible space' theory, as Newman himself has stated, and this has detracted from, and severely impeded the refinement of the theory. The recent popular political support for SBD in Wales and CPTED in American and Canada cannot be accused of supporting an environmentally deterministic position even if the argument is taken to extremes. Koskela and Pain (2000) concur and contend that "such an argument cannot simply be rejected as deterministic" (Koskela and Pain, p270). 'Environmental probabilism' (Brantingham and Brantingham, 1975) is perhaps a more appropriate, and certainly less reactionary phrase that might be utilised.

Tijerino (1998) notes that "for Newman, human perceptions are essential for the emergence of defensible space (in particular the perceptions of the would-be offender)" (Tijerino, p323). Of the numerous variables that have eluded 'defensible space' Tijerino expresses surprise "that perceptions have not been linked to the defensible space discourse since Newman's theory states that defensible space creates the 'physical expression' that a space is defended" (Tijerino, p324). This area of study therefore represents the focus of investigation for the wider research programme. Assessing Newman's third element of 'defensible space' – 'image and milieu' certainly requires deliberation. Further research may mould a 'common language of space' into a cohesive, effective and useful tool for measuring crime in British urban residential space.

The inappropriateness of monolithic crime prevention strategies is now well appreciated and understood. Tuan (1977) quotes from Shakespeare "What is the Citie, but the People? True, the People are the Citie" (Coriolanus, act 3, scene 1, in Tuan, p175). It is highly conceivable, however, that investigations concerning how such 'people' might perceive the city may represent the 'common language' to assist in bridging the physical and the social complexity of the city. Jeffery (1976) succinctly states the case for physical design; "the organism involved in crime is physical. The environment involved in crime is physical" (Jeffery, p170).

'Defensible space', as the theoretical foundations of SBD and CPTED does not represent the solution to the plethora of problems that exist in urban Britain today. A deeper understanding of how 'defensible space' is perceived, however, will provide insights into the criminogenic capacity of British housing designs, thereby strengthening both SBD and CPTED as crime prevention strategies.

In conclusion Chapter 3 asserts that the theory of 'defensible space' has not been rigorously tested in Britain. Chapter 4 reviews and critically evaluates the crime and social statistics that are available for such an empirical investigation. Chapter 5 discusses the housing typologies that are common to British cities, while Chapters 6 and 7 discuss the topics of 'Fear of Crime' and 'Environmental Psychology' respectively, to probe the issue of the 'perception' of space. It is contested that this approach is useful for the emergence and development of an effective methodology in Chapter 8, to more appropriately investigate this complicated and intriguing area of study.

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Chapter 4

Official Statistics:

Criminal and Socio-Economic

Data and Housing Design.

4.0 Testing a Hypothesis – The Data Available

Chapters 2 and 3 highlight both the contemporary importance and the numerous shortcomings inherent within the theory of 'Defensible Space', which arguably necessitates a thorough re-examination of Newman's work. The applicability of Newman's theory to Britain has not been rigorously demonstrated and this chapter discusses and evaluates the statistical data that are available to determine whether or not 'defensible space' can be tested within the British City using recorded crime statistics and published socio-economic data. A review of such data facilitates the construction of a model by which the criminogenic capacity of urban residential space may be usefully gauged. Conversely, the data available may not be conducive to such a procedure and therefore may indicate that an alternative method for measuring the impact of residential design upon criminality within the British City is required. A critical evaluation of the data available is undertaken to seek to define any additional data if feasible, to measure the criminogenic capacity of residential space.

An understanding of crime and criminality requires a crucial evaluation of both the spatial and social perspectives, and official data in these areas therefore requires critical evaluation. The data available and how it is manipulated and interpreted obviously represents a crucial part of any subsequent analysis.

The use of empiricism to assist in the formulation of hypotheses is a complex area for discussion. An examination of the various sources of both crime and socio-economic data is provided and this chapter considers how such material may, (or may not) be utilised to provide a framework for further investigation, in addressing the intrinsically protean problem of crime in any large-scale post-industrial society.

4.1 Philosophical Approaches to Official Statistics

May (1993), identifies three distinct schools of thought on official statistics. There are the "Realists", who consider official statistics to be objective indicators of the phenomena to which they refer and draw their inspiration from positivism. There are the "Institutionalists", who reject the idea that official statistics are objective. Instead, they consider official statistics as neither valid nor reliable. Statistics,

therefore, tell us more about the organisation's behaviour, such as the discretionary actions of individuals. Finally, May (1993) identifies the "Radicalists", who, "while agreeing with the "Institiutionalists", that statistics represent an organisation's priorities or are the product of discretionary practices, they would locate these within a wider theory of the dynamics and structure of society" (May, p62). As an example, he cites the dominant role that working class crime possesses in police-derived statistics, because this group are relatively less powerful and their crimes more visible when compared to middle class or white-collar crime. In summary, May claims "official statistics produce interesting findings on contemporary society which, despite their shortcomings have been used by radical and realist researchers alike" (May, p62).

This chapter critically evaluates the various sources of crime and socio-economic data to ascertain whether the officially published statistics can be applied usefully and effectively to investigate the criminogenic capacity of residential space.

4.2 Secondary Data Sources – Theoretical Strengths and Weaknesses

In any discussion on data, it is necessary to comment upon the strengths and weaknesses of secondary sources of information. According to Stewart (1984), "secondary information consists of sources of data and other information collected by others and archived in some form"(Stewart, p11). This might include, for example, government reports, industry studies, syndicated information and books and journals. Such information, he argues, "offers relatively quick and inexpensive answers to many questions and is almost always the point of departure for primary research" (Stewart, p11). Official crime statistics and published socio-economic data certainly represent such secondary data sources. Stewart opines that "an investigation of secondary sources provides an opportunity to learn what is already known, and what remains to be learned, about a particular topic. It is often possible to combine the information from several different sources to reach conclusions that are not suggested by any one source" (Stewart, p12). The analyst is not responsible for collecting or collating the information and enters the picture after the data collection is over and the framework / definitions determined. There

may be a lack of quality control of the raw material of analysis. The analyst, when carrying out primary research, is responsible for the design of the research, the collection and collation of the data and the analysis and summary of the information. Stewart (1984) notes that in some situations, primary and secondary research are broadly interchangeable. He maintains that "... more often, primary and secondary research are used in a complementary fashion, rather than as substitutes for one another" (Stewart, p12). Research begins with a sharply focused question or a set of objectives and is answered through the gathering and interpretation of information. Frequently, previous research will not have answered all of the questions at hand and "new" questions may also arise, therefore, primary research becomes imperative. Here, secondary research "... helps define the agenda for subsequent primary research by suggesting which questions require answers that have not been obtained in previous research" (Stewart, p13). Knowledge of secondary information can therefore enhance the effectiveness of primary research and Stewart claims it is difficult to imagine a research topic that does not begin with at least some secondary research. "Existing information provides a foundation for problem formulation, for the design of new research, and for the analysis and interpretation of new information "(Stewart, p13). In terms of the design-affects-crime debate, such data sources therefore require deliberation.

Secondary data has several distinctive advantages over primary collection efforts; it is less expensive, provides quick and practical responses, and can provide a most useful starting point for further research by suggesting problem formulations, research hypotheses, research methods and hiatuses in existing research. Finally, secondary data can provide a sophisticated way of examining contrasts or temporal trends.

However, secondary data is not unproblematic. Existing information can also result in tunnel-vision by creating frameworks which are inescapable and constraining, thereby dominating our thinking and theories. In addition, government sources dominate the provision of such data in Britain, and it is therefore necessary to note both the possible political and operational implications. The notion of "how" and "why" such data was collected previously must be considered, particularly when utilising predetermined instruments for the collection of such data. Indeed, Stewart (1984) notes how design / conclusions may be flawed. Data is inevitably collected

with a specific purpose in mind and this may introduce deliberate or unintentional bias. In addition, information is rarely available at the individual - observation level. Therefore, the data is aggregated in some form, and the unit of aggregation may be inappropriate for the purposes of some later analysts. Finally, by definition, secondary data is inevitably time-constrained and may not accurately represent the phenomena currently being investigated.

A discussion concerning the nature of official statistics is useful particularly with reference to crime data and socio-economic data. Hammersley (1993) claims that knowledge of how statistics are produced for the Government Statistical Service (GSS) is restricted to those directly involved and cites three primary reasons for this arrangement. Firstly, there is a legally enforced secrecy (except for officially published literature). Secondly, he implicates the conventions of academic writing, which he claims tends to obscure the muddled and makeshift nature of what really takes place. Finally, he argues that there is a general lack of interest and the matter is considered to be relatively trivial. However, it is claimed that an awareness of this production process and of the state institutions in which it takes place, "... is crucial to understanding the meaning of official statistics" (Hammersley, p146). Moreover, why a particular area for research is preferred, is perhaps equally crucial in the evaluation of secondary research. According to May (1993), there should be two points to consider when trying to understand the issues surrounding official statistics. Firstly, the type of official statistics being considered and secondly, the objectives underlying the collection process which is either compiling or interrogating these statistics. Hammersley (1993) opines that "official statistics are produced primarily to provide the information required by administrators, 'mandarins' (the very highest civil servants) and ministers in government departments" (Hammersley, p146). The interpretation and use of such information that is "required" can therefore occasionally be subjective and politically motivated. Hammersley notes that the first page of "Government Statistics: A Brief Guide to Sources" (Central Statistical Office, 1973) reads: "the GSS exists first to serve the needs of modern government" (Hammersley, p146). Indeed, such "needs" may not be those held by society generally and, more specifically, they may not be appropriate for the ensuing inquiry.

Hammersley therefore asserts that "academic researchers and other users of published data are not surprisingly, assigned the lowest priority" (Hammersley, p146) and that statistics "... do not ... emanate directly from the social conditions they appear to describe" (Hammersley, p163).

Hall (1996), is more contentious and states "statistics, notoriously, can lie; none more so than social statistics, and none among these more so than statistics of crime" (Hall, p363). However, to make any correlation between crime rates and socio-economic factors and design involves an acceptance of detailed data sets that may only reveal a fraction of the true picture. Hindess (1973) warns against using official statistics for subsequent analysis since the making and recording of observations are based on the background expectations and common-sense theories of the observer. He claims "there is no clear or unambiguous interpretation of these official categories in terms of some well-defined set of real-world objects or events" (Hindess, p20). The classification of an observation is "to a greater or lesser extent, classification by fiat" (Hindess, p21). However, Hindess does acknowledge that "continued careful descriptions of real-world events are in fact possible, but official statistics do not provide them" (Hindess, p27). Echoing this sentiment May (1993), asks "can we be sure that these statistics provide an accurate picture of the extent and nature of crime in this country" (May, p53). The secondary data that is made available in the form of recorded crime statistics needs thoughtful assessment and evaluation. It is therefore argued that investigating and critically evaluating such sources can determine whether the published socio-economic data and recorded crime statistics offer an approach that is suitable and appropriate, or indicate that an alternative approach is necessary.

4.3 A Review and Evaluation of Crime Statistics.

4.3.1 Home Office 'Notifiable' Offences

Official Home Office statistics for England and Wales refer to 'Notifiable Offences' recorded by the police which totalled over 5.1 million in 1998/9 (Home Office, 2000). This equates approximately to a ten-fold increase since 1950, or an increase from 1.1 offence per 100 persons to 9.8 offences per 100 persons. However, Maguire (1997) questions such an increase, asking: "how much they are

simply a function of new, improved or differently tuned channels of communication about what is happening 'out there'" (Maguire, p138).

Maguire (1997) notes that certain crimes are excluded from police statistics. These include; offences triable in magistrates courts, those recorded by police forces for which the Home Office is not responsible (Transport Police, Ministry of Defence Police and UK Atomic Energy Authority Police); and tax and benefit fraud dealt with by the Inland Revenue, Customs and Excise and the Department of Social Security. This situation may preclude the study of this source of statistics for a wide range of crimes.

Scott (1990) accepts that the "dark figure" of crime (not reported) "may considerably understate the amount of crime" (Scott, p91). He identifies three fundamental decisions that may affect whether an incident is actually entered as an official statistic; reportablity, visibility and recordability.

The reportability of a crime is important in that the perception of its seriousness and practical difficulties can both affect the reporting of statistics. Operational and definitional problems also pervade. Reported offences therefore do not reveal all of the crimes that will have taken place and precludes those that are not reported, witnessed or experienced as well as those considered too trivial to report. Furthermore, if the witness to a crime does not have the time or inclination to report a crime or if the reporting of that offence may cause embarrassment, shame, or self-implication, the offence may not be reported.

The visibility of an offence is similarly crucial, since it may only be the least successful criminal who becomes visible and therefore reportable. The discretionary enforcement of the law and the concentration of police resources will affect recordability, as decisions can become administrative routine and police districts may vary in the allocation of resources for different offences (i.e. drugs, and traffic offences) (Scott, 1990). 'Less defensible' reasons for under-recording include improving overall clear-up rates and reducing potential workloads (Maguire, 1997, p151). Mayhew and Aye Maung (1992) have found "that about forty per cent of 'crimes' reported to the police do not end up in the official statistics" (Maguire, p151). The 1998 British Crime Survey (BCS) confirms this

overall trend (Mirrlees-Black *et al*, 1998). Maguire also identifies calculatory difficulties. The Home Office asserts that "if several offences are committed 'in one incident', only the most serious is counted" (quoted in Maguire, p151).

Maguire (1997) also notes how offences discovered by the police are subject to fluctuation which may be caused by planned operations in certain areas. Planned drugs raids, if a successful prosecution in court ensues, may eventuate in an increase in drug-related offences and the withdrawal of resources may result in a decrease in the recorded crime levels for such offences. Indeed, for Scott (1990), this can hide "substantial regional variations and patterns of policing" (Scott, p93). Such variation, in combination with sentencing variations are referred to as the 'funnelling' of criminal behaviour.

Definitional problems are also widespread. 'Robbery' can range from an organised armed robbery to a drunken attempt to steal a handbag. Temporal changes to the range of crimes on the statute books can sometimes exacerbate the problem. Indeed, Davies (1999) recently reported on the Nottinghamshire police force scandal exposed in 1996, which concerned techniques of 'cuffing', 'nodding', 'write-offs' and 'DNFPAs' (does not require further police action) to improve clear-up rates and reduce crime rates generally. He claims the introduction of 'performance indicators' by the Home Office in 1992 encouraged such practices to prosper. This reiterates how crime statistics can be manipulated and Davies (1999) summarises "...ultimately this is not a story about Nottinghamshire. The performance indicators which drove them into malpractice apply to all 43 police forces in England and Wales" (Davies, p12). Indeed, official police records for 1997 revealed a record fall of nine per cent as 441,400 fewer offences were recorded by the police (Home Office, 1999). However, for Davies, "...the true figure – uncorrupted by cuffing – is simply not known" (Davies, p12).

Jack Straw's more recent changes to the counting procedures (implemented in April 1998), prompted the Home Office to estimate that crime in England and Wales would increase by as much as twenty per cent (Travis, 1998, p18). Indeed, official statistics now reflect these new rules for counting and classifying crime and significantly, after five consecutive annual reductions in the crime rate, figures for 1998 have risen dramatically (Home Office, 2000). The Home Office comment that

"the changes in the counting rules and coverage of offences...have raised the recorded crime total by an estimated 14%" (Home Office, 2000, p26).

In terms of geographical comparison, Maguire claims that official statistics take no account of possible differences in social composition, as opposed to the sizes of populations. In addition, variations within police forces may also not be reflected in the statistics (Farrington and Dowds, 1985; Scott, 1990). However, he is careful to avoid the ethnomethodologists' position of "total agnosticism" to conclude that "criminal statistics are imperfect records ... but are nonetheless corrigible indicators of real rates of behaviour" (Scott, p95). It is arguably the case that such statistics are social products reflecting ***a*** social reality rather than ***the*** social reality.

Since the intention is the application of analysis at the micro level, it is questionable whether such data is appropriate to an evaluation of the effect of environmental manipulation and design on crime rates. This is particularly relevant when local area statistics (i.e. for a high-rise estate) are only available for analysis in aggregated form. Indeed, Wong (1997) claims, official crime statistics "inevitably conceal areal variations in crime" (Wong, p229).

Home Office crime statistics mentioned above have provided the dominant source of information relating to crime levels for most of this century. Concern relating to the possibility of under-reporting and under-recording and the rise of the victim's movement in the U.S.A. arguably encouraged the development of an alternative method of measuring crime; the victimisation survey.

4.3.2 Victimisation Surveys

Aye Maung (1995) traces the development of victim surveys during the last twenty years. The origin of such surveys can be traced to America and the 1967 United States President's Commission on Crime. This report recommended the collection of such material and resulted in the National Crime Victimisation Survey (NCVS), which has focused on individuals in private households since the first survey in 1972. After a small number of local surveys in Britain, the first BCS was conducted in 1982 with additional surveys in 1984, 1988 and 1992, and subsequently undertaken biennially.

Wong (1997) notes the "considerable gap", between the official recorded figures and those discovered by other sources of crime statistics. The 1998 BCS, for example, suggests only twenty-four per cent of all crimes occurring in 1997 were destined to appear in police records (Mirrlees-Black *et al.*, 1998). The authors commented that "the remaining 76% make up the 'dark figure' of crime" (Mirrlees-Black *et al.*, 1998, p18). Such variation, for Wong, can result in "permanent scepticism about any comparative analysis or any attempt to estimate trends in the actual levels of crime types over time and space" (Wong, p229). In compiling crime statistics for 1995, the Home Office commented on the nature of BCS estimates; "the amount of crime actually committed is perhaps **four** times the number of crimes recorded by the police" (quoted in Aye Maung, p208). Similarly, Aye Maung (1995) notes how "the 1992 BCS showed that for those offence categories which can be compared with recorded offences, the BCS estimate of offences is between three and four times higher than police statistics" (Aye Maung, p208). This trend is also apparent in the 1998 BCS (Mirrlees-Black *et al.,* 1998). A critical evaluation of this source of data is therefore required.

Victim surveys form part of the larger group of sample surveys where information relating to offences experienced in the last year, is collected from a randomly selected set of respondents (the sample size for the BCS of 1998 was almost 15,000). This sample is seen to represent some wider population of interest., "... allowing measures relating to this population to be estimated" (Aye Maung, p207). Although validity and reliability is pursued, various problems can be identified. According to Aye Maung (1995), sample selection is decidedly problematic. The survey sample might not necessarily reflect the wider population and may not facilitate an accurate estimate for national levels. In addition, the scope of crimes covered is limited. The BCS excludes crimes against organisations (fraud, shoplifting, fare evasion, commercial burglary, robbery and homicide), 'victimless' crimes (i.e. drug and alcohol abuse) and crimes where the respondent is unaware of having been victimised (i.e. the case of fraud). Aye Maung also identifies the issue of legal and popular definitions in classifying and counting crimes. As such, respondents' definitions may not necessarily be easily classified, accepted or indeed necessarily incorporated in all instances. A further limitation is that the questionnaires ignore incidents against those under the age of sixteen, therefore precluding any analysis of such offences. Although, considering the 79% response

rate (Mirrlees-Black *et al.,* 1998) to the BCS, the problem of under-reporting is arguably negligible in comparison to Home Office statistics surveys. The question of non-response remains and Young (1988) estimates that "in most cases there is a fifth to one quarter of respondents whose victimisation is unknown" (Young, p169). He notes that this 'dark figure' may include 'transients' (lower working class people) who may be hostile towards clipboard-toting officials, and "those most frightened to answer their door because of fear of crime"(Young, p169).

More specifically, aspects of survey design, especially of questionnaire design and the design of offence coding, will also affect the interpretation of results. There is a maximum of five forms per respondent, with each form limited to five incidents per household / individual per year. This creates a maximum of twenty-five offences per individual / household, per year. Also identified are response errors, (lack of understanding, memory loss, invention, refusal to recall) and interviewer effects (poor interview techniques and possible operational constraints such as time and, perennially, finance).

However, in stating the limitations of the BCS, Aye Maung maintains "... for those crimes it measures, BCS figures still provide a better trend measure than police statistics, and certainly the only quantification of changes in reporting and recording" (Aye Maung, p226). Wong (1997) does note that the sample size of 10,000-15,000 is, by international standards, relatively small and also notes the reservations held by Smith (1989), concerning the use of the BCS to facilitate spatial or time-series analysis (as discussed above). The limitations involved must be acknowledged and research utilising the BCS may be restricted to the analysis of specific and pre-selected crimes and fails to analyse crime at the microscopic level required to evaluate design elements as a partial explanatory factor for criminality. The 1998 BCS recognises that it "does not measure crime well at the small area level" (Mirrlees-Black *et al.,* 1998, p2).

Aggregated statistics remain the preferred medium for analysing crime (Coleman and Moynihan, 1996) and in the light of the various problems regarding these sources it is useful to investigate whether any other worthwhile sources exist to measure crime.

4.3.3 Home Contents Insurance Premium Data

Wong (1997), claims the near-doubling of the official crime figures between 1981 and 1991 (Mayhew and Aye Maung, 1992), has given "unprecedented momentum to the politicisation of crime" (Wong, p228). She cites the work of Coombes *et al.*, (1992), who, according to Wong, first proposed the idea of using home contents insurance premiums as a surrogate measure of crime. Coombes *et al.*, (1994) also studied the north-west of England and favourably evaluated the conceptual and methodological issues related to the utilisation of such data.

According to Wong (1997), although the insurance industry is not expected to produce more accurate estimates of crime rates or aggregate their information for any group of potential analysts, insurance data can provide another potentially rich source of information. This concerns the individual risk analysis systems used by companies to calculate the underwriting (i.e. premiums / pay-out ratios), which are then used to continually review the premium rates for insurance cover. Wong opines that they allow temporal comparison without the need to adjust for inflation since, similar to interest rates, the premium rate is an exclusively financial ratio (Wong, p230). The hypothesis therefore proposed by Wong is "that the rating of contents insurance premiums reflects the levels of crime risk recently experienced in the areas under discussion" (Wong, p230). She uses a statement of one national insurer to emphasise the point "because some parts of the country have a higher crime rate than others, the cost of cover varies accordingly" (Commercial Union, 1991, p5, quoted in Wong, p230).

In commenting on using insurance premiums Wong notes how "it is clear that premium rates take into account factors other than crime" but suggests that the crime risk is "likely to be the dominant factor in the equation" (Wong, p230). This argument can be challenged in that insurance premiums provide insurance against crime *and* accidental damage. Another criticism is that premiums might be more closely related to the pursuance of profit and that a doubling of premium rates does not necessarily signify that crime levels have doubled. Wong (1997) uses the analysis of three major insurance companies (Municipal General Insurance, Commercial Union and General Accident) from 1988-1995, which she claims indicates that insurance companies do not selectively inflate premiums to raise profits - premiums do occasionally decline. Wong uses this analysis to claim that

"there is some rational basis (i.e. link with crime risk), other than profiteering which drives their premium calculations" (Wong, p231). Criticisms in the media (i.e. Scott (1994) in The Observer) of this industry, have focused on the topic of "cherry-picking". In response, Wong argues that "several companies are known to be refining their analysis of post codes to determine high and low-risk households on a street by street basis" (Wong, p230). However, the extreme sensitivity of post-code designation may interfere with the utility of such data.

Wong (1997) observes that the coverage of contents insurance is similarly sample based, claiming that "the representativeness of insurance data will be affected by the number of uninsured households" (Wong, p231). These would include households which simply cannot afford insurance, or have limited property to lose or, indeed, a 'high-risk' subgroup, which may consider the premiums simply too expensive to contemplate. In addressing this issue of coverage, Wong notes that the Family Expenditure Survey undertaken by the Association of British Insurers (ABI) in 1991 (ABI, 1993), revealed that over 75% of all households and 90% of owner-occupied households were found to have home contents insurance. Wong therefore concludes that "the number of observations is encouraging" (Wong, p231). Nevertheless, this equates to 25% of all households having no insurance. These addresses are likely to represent the poorest households where according to official crime statistics, criminality is often most extensive. This might represent a serious omission and under-representation of crime levels at both the macro and micro levels.

Variation in Britain in the take-up rate of home contents insurance according to the ABI survey (1993), has been small; between 72% and 76% since 1974. For Wong, it is therefore possible to undertake meaningful comparative analysis of time-series data. She claims that "the most obvious advantage of insurance data is that they meet the criterion of providing a detailed spatial analysis, which allows comparisons between different local neighbourhoods across cities" (Wong, p232). The majority of insurance companies publish information at the post code district level (totalling 2,900 areas), while some, for example the Norwich Union, have recently categorised areas in post code sectors (around 9,000 codes). One criticism, however, is the question of the availability of insurance data. It is at the very least, commercially sensitive and may not simply be readily available to 'non-

approved' end-point users. It is also questionable to what extent insurance data singularly represents and reflects the notion of 'crime potential' in a given area. Residents perceptions of the value of their home contents and the payment / non-payment of premiums may be incorporated in the data. The profit margins orchestrated by insurance companies may also influence insurance rate premiums.

More fundamental, perhaps is the relationship to official crime statistics. Insurance premiums, by design, are based on 'pay-outs' which occur only when the incident is reported and a police crime number generated. Therefore, insurance data may merely represent a subset of police statistics and attract some of the criticisms previously directed at this source of data.

It is clear that the application of insurance data would be limited to incidents of residential and commercial burglary only and to those residents in a position to afford insurance or those who are inclined to insure their properties. Lord Roger's report "Towards an Urban Renaissance" (DETR, 1999), recommends various measures to improve urban living and slow out-migration from city centres – one of which is to reduce insurance premiums for high crime areas (Clover, 1999, p11), which would clearly further diminish the utility of such a data source for this research project.

It has been demonstrated that the existing data for measuring crime is inappropriate for the specific, objective and stated research aim of analysing the influence of housing design upon criminality. A brief discussion of socio-economic data is provided below to acknowledge the crucial influence of the social perspective. An approach utilising recorded crime statistics and published socio-economic data has, however, been rejected.

4.4 Socio-Economic and Demographic Factors

Chapter 3 argues that the design of the urban environment *alone* cannot explain geographical variations in crime and that CPTED, SBD and 'defensible space' should be considered as crime prevention strategies, rather than as a panacea for society's social problems, including the ubiquitous issue of crime. Numerous

studies have provided an ecological analysis of the effects of poor environments and socio-economic conditions (i.e. unemployment, poverty, lower class status and housing tenure) on delinquent behaviour. Discussion of the relationship between crime rates and social exclusion in the inner city has recently become widespread (i.e. Field, 1990; Walker and Walker, 1987; Wilson, 1987). Other studies have analysed social cohesion (Hirschfield and Bowers,1997; Sampson and Groves, 1989; Evans, 1989), poverty (Herbert, 1977), unemployment (Chiricos, 1987) social disadvantage (Hirschfield, 1995a and 1995b; Shihadeh and Steffensmeiser, 1994; Hirschfield and Bowers, 1997), social heterogeneity and family disruption (Warner and Pierce, 1993), public housing (Mazerolle and Terrill, 1997) and 'housing class' and tenure (Baldwin and Bottoms, 1976).

As is the case with much social science research, however, contradictory findings and inconsistencies are apparent. As previously stated, the officially derived socio-economic data sources may well prove just as problematic as official crime statistics for the analysis of crime in urban residential housing designs. It must be noted that the criticisms relating to official crime data stated earlier might be similarly and broadly applicable to officially collected socio-economic data. Indeed, Vold *et al.,* (1998) argue that there are major problems that combine to produce "all the inconsistent and contradictory conclusions" (Vold, *et al.*, 1998, p114). Definitional and measurement problems and the complexity of 'multicollinearity' are cited examples.

Crucially, however, the principal data source of crime statistics are rejected for the purposes of this research, as being inappropriate, unreliable and inapplicable. The use of existing data sources is therefore rendered impotent. Sources that might usefully be utilised to underpin this approach (socio-economic and demographic data) do not therefore, require detailed examination. This is not in any way, a rejection of the influence of socio-economic and demographic characteristics upon crime, rather that a shift in the focus of the research therefore renders such an investigation inappropriate.

Secondary data does not appear to form the cornerstone for further research, largely on the grounds of aggregation of data and inappropriate measuring instruments for incidents of crime. An alternative strategy is considered to be more

appropriate which utilises perceptions of crime and the fear of crime as the measuring instrument for criminality. This approach also gathers socio-economic and 'experiential' data from respondents, and enquires into their socio-economic associations regarding their backgrounds and the images presented.

4.5 Summary

Critical investigation of secondary data sources, and particularly the principal data set of recorded crime statistics, suggests an alternative approach for measuring criminality in specific housing designs in the British City. In light of the problems associated with the use of secondary data, the advantages of primary data are considered, to assist in understanding the influence of design upon criminality. Stewart (1984) comments "the purpose of primary research should generally be to fill the gaps in existing knowledge" (Stewart, p13). Indeed, it is argued that an inquiry into the perceptions of 'defensible space' and crime associated with stereotypical British housing designs can contribute insights in this regard, to redress the hiatus identified in Chapters 2 and 3. 'Defensible space' involves the capacity of the built environment to influence the 'perception' of 'defensible space' elements, and to this end, an investigation into the 'fear of crime' may prove a more worthwhile, detailed and productive form of inquiry. Indeed, a mismatch has been observed, between crime sites identified by using recorded crime data and those based upon fear of crime evaluations (Brangtingham and Brantingham, 1977; Vrij and Winkel, 1991). There has been a recent growth in the study of fear of crime (Hale, 1996) although Harries (2000) maintains that this topic has not received the attention that it warrants.

It is apparent that a discussion and evaluation of qualitative primary research methods is necessary, and this receives deliberation in Chapter 8.

An inquiry into the effect of design upon criminality must necessarily operate at the micro level, and therefore requires non-aggregated, detailed and reliable statistics. Indeed, according to Mazerolle and Terrill (1997), "one of the biggest hurdles to identifying hot spots in places with high population densities, such as public housing sites and large apartment blocks, is getting data at small units of analysis" (Mazerolle and Terril, p241). If reliable crime data could be acquired at the

microscopic level and analysed in combination with socio-economic data, the criminogenic capacity of urban space could be usefully be investigated. It is argued in this chapter, however, that existing secondary sources of crime statistics fail to measure accurately the occurrence of crime and are in any case unavailable at the microscopic scale necessary to facilitate detailed enquiry. A review of aggregated socio-economic data is therefore rendered both unnecessary and inappropriate.

CPTED, SBD, 'defensible space' and the design-affects-crime debate generally, are not accepted as being amenable for the prevention of all types of crime and the shortcomings have been discussed (*Cozens et al.,* 2000a, 2000b). As Chapter 3 has argued, certain categories of crime may be more amenable to this approach than others. It is nonetheless imperative to develop and enrich this field of research in order to refine this popular and controversial crime prevention strategy.

Since the focus of this inquiry is the influence of the design of residential dwellings upon criminality, this is arguably most appropriately represented by the crime of burglary and street-level crime that occurs outside the dwelling unit.

The approach adopted is necessary firstly, because the 'perceptive' elements to 'defensible space' have largely evaded investigation (Chapter 3) and secondly, the use of existing statistics has been thoroughly rejected. Investigating the 'image' of specific housing designs, promises insights into the perceptions of key stakeholders in society, regarding the spatial *and* social aspects of the design-affects-crime debate and the 'image' of specific features within the built environment.

In conclusion, research into crime patterns, regardless of the source of data, is a highly problematic and intricate operation. To investigate the impact of design on levels of crime, the proposed research focuses upon the fear of crime as the indicator for criminality. It is argued that such an approach represents a unique contrast to the available quantitative data of recorded crime currently underpinning CPTED, SBD and 'defensible space' initiatives. The collection of primary data, in the form of interviews with a range of respondents, is suggested as a useful way forward. Such an approach is adopted in order to substantiate or repudiate

Newman's theory, particularly regarding his third element of 'image'. An investigation into how specific residential housing designs are perceived in relation to crime and deviancy and 'defensible space' is adopted, and an exploration of socio-economic associations is considered to be an appropriate approach.

Chapter 5 reviews the housing typologies that are most commonly found in British cities and provides an historical perspective into housing policy, in order to facilitate the selection of specific designs for investigation and further research. Chapter 6 reviews research in the area of fear of crime, while Chapter 7 probes the field of environmental psychology. It is postulated that such an approach is necessary in order to understand both 'perceptions' and 'fear of crime' and inform the design of the methodological framework adopted.

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Chapter 5

An Historical Review and Classification of Housing Designs found in the British City.

5.0 Introduction and Rationale

The criminogenic capacity of the various component parts of the built environment has yet to be defined and a straightforward method for its measurement is not yet in existence. This chapter establishes and classifies the dominant residential designs found in modern British cities in order to justify their selection as the most appropriate designs for investigation. An historical account of housing design and policy is provided as the basis of such an operation, in the absence of any existing definitive classification. It is argued that investigating the perceptions of 'defensible space' and fear of crime relating to the selected designs can facilitate a more detailed understanding of the design-affects-crime debate in the British context. Furthermore, although the relationship between housing and criminality in Britain has been investigated (Coleman, 1985; Poyner and Webb, 1991, Brown, 1999; Armitage, 1999; Pascoe, 1999), no study has systematically compared common residential designs in terms of 'defensible space' theory and criminality.

5.1 British Housing – A Review

Investigating the historical background to British housing serves to provide an understanding of the changing social and political backdrop and offer the opportunity to broadly view Britain's common housing designs.

5.1.1 Nineteenth Century Housing

Sim (1993) makes a firm distinction between middle class and working class housing, claiming "at the beginning of the nineteenth century, the most common middle class urban house type was the terrace" (Sim, p1). This was a reflection of the limited public transport of the time and the desire to build at relatively high densities in close proximity to the town centre and the place of work. Also identified are Victorian villas, made of brick, with bay windows and ornamentation such as turrets and chimney stacks. These dwellings had large gardens (half an acre or more) and large suburbs of these were built on the periphery of most cities, for example, Brondsbury in London, Mossley Hill in Liverpool and Edgbaston in Birmingham. The extension of suburban railways sponsored the development of such suburbs, allowing the middle classes to distance themselves from the urban smoke, squalor, poverty, congestion and disease.

Working class housing in the nineteenth century was frequently substandard, high density and quickly became dilapidated and often squalid. Sim (1993) identifies cellar dwellings, found mostly below the terraced housing mentioned above and typically measuring 12 square feet by 6 feet high. Another example was represented by the court dwelling. This consisted of blocks of around three storeys arranged around an open court. These courts were between six and fifteen feet wide, accessed through narrow passageways or archways with the opposite end closed by the back or side of an adjacent building. Linked to the development of court dwellings was the spread of 'back-to-back' housing. These were built in double rows with each dwelling having only one aspect at the front. Rear and side walls were shared and doors and windows only appeared on the front of the building. Generally such dwellings were only one room deep with one room per floor. Occasionally, however, there can be found two smaller rooms on the upper floor. Such housing was geographically concentrated in the north of England, particularly in the West Riding area of Yorkshire. By 1886 Leeds possessed 49,000 such houses (representing 71% of the city's total housing stock) built at densities of 70-80 per acre (Sim, 1993). Under pressure from Medical Officers of Health, bye-laws banned the construction of such buildings in the mid-late nineteenth century (occurring in 1844 in Manchester, 1864 in Liverpool and 1876 in Birmingham). However, the building of such housing continued in Yorkshire until 1937.

Single storey cottages in rows, found in Sunderland for example, were commonly twenty feet wide with a large front room and at the rear, a smaller room and a kitchen. Extensions to the rear became fashionable in the mid-nineteenth century and provided an extra facility such as a bedroom or toilet. Similarly characteristic of the north-east was the 'Tyneside Flat'. Sim claims that these seemed to originate on the riverside where houses were crowded on the steep hillsides of Newcastle and Gateshead. There emerged a trend for multi-storey structures where the upper part of the property was accessed from the rear. Virtually all working class housing was of this configuration in the north-east in this period. Indeed, "by 1911, almost two-thirds of Tyneside dwellings were flats"(Sim, p7).

5.1.2 The Tenement

In Scotland, the characteristic urban housing type was the tenement. These are stone built, three, four or five storey buildings built in long rows at intervals. A street entrance leads into a communal passageway. Four to six flats were often served by each landing and consequently one tenement could consist of around twenty flats. Initially, one toilet was commonly shared by the whole tenement. However, the addition of towers to provide one toilet per floor did take place from the late nineteenth century onwards.

5.1.3 Bye-Law Housing

The work of health reformers such as Edwin Chadwick was instrumental in the creation of the Public Health Act of 1848, the Local Government Act of 1858 and the 1875 Public Health Act. This last Act in particular affected the development of new housing during the latter part of the nineteenth century. Such housing became known as "bye-law housing" and took the form of linear, regimented, repetitive terraces, opening directly off the street, as shown in Figure 5.1. Also characteristic were small walled yards at the rear, which contained an outside toilet and shed. Commonly the yard would have a back gate opening onto a lane. The rear lane was an important feature since 'night soil' would no longer have to be carried through the house. These lanes ranged from wide road-like access paths in parts of the north of England, to narrow alleys in the south. Such housing would be typically 15-20 ft wide with a front and back room and a small kitchen projecting into the back yard. A staircase facing the front door led to two upstairs bedrooms.

These properties still had no internal bathrooms and such "bye-law housing" was frequently given General Improvement Area status in the 1960's and 1970's and were modernised with the addition of internal bathrooms. Images of television's "Coronation Street", perhaps, best reflect such housing. Much of the terraced housing found so frequently in industrial South Wales, among other areas, is readily located within such a category.

Figure 5.1.

Bye-Law Housing Developed Under the Public Health Acts of 1875-1890.

Source: Balchin and Rhoden (1998, p3).

5.1.4 The Nineteenth Century Philanthropists

While Chadwick and others campaigned for legislative reforms, philanthropists such as George Peabody began to build better quality housing for the 'deserving' working classes. He created the Peabody Trust in 1862 and built developments at Spitalfields, Islington, Shadwell, Westminster and Chelsea. Characteristically these were tenemental, and included four storeys with shops on the ground floor and predominantly two-roomed flats above, with shared lavatories and washing facilities. Further examples of such philanthropy included the high-density industrial villages of Akroyden (designed by Edward Akroyd), and Saltaire, near Bradford (Titus Salt). These model industrial villages entered into a new era of low-density, garden suburb design (Colquhoun and Fauset, 1991) and included Port Sunlight (William Lever) and Bourneville (George Cadbury). Sim (1993) argues that these houses were originally to have been semi-detached with gardens, but the level of demand for accommodation prevented this and a number of small terraces were built. Allotments were provided to compensate for the

absence of garden space. These ideas were further developed by Joseph Rowntree at Earswick near York, where houses were aligned with a southerly aspect where possible and this therefore favoured wider frontages. Such developments paved the way for the garden city theorists to develop their ideas.

5.1.5 The Railway Town

Railway towns such as Swindon, Crewe, Wolverton and Eastleigh ranged from villa style houses for senior management, to small terraced cottages for labourers, with larger and more significant housing designs at the end of the terracing for the higher graded employees and their families. Shops, schools, churches, a library and public houses were also features of such company towns.

5.1.6 New Towns and the Garden City Movement

Howard (1898) argued that cities should not be allowed to expand beyond a population of some 30,000 and tried to balance the advantages of both town and country in a series of new settlements later known as Garden Cities. This movement had considerable impact upon inter-war developments, particularly with regard to low-density, semi-detached houses with gardens. Early examples were Letchworth and Welwyn Garden City. Indeed, this thinking greatly influenced the New Towns built after the Second World War. As transport technology progressed, people were able to live further away from city centres and the rapid development of suburbia began. One such example, is Hampstead Garden Suburb in London.

The Housing of the Working Classes Act of 1890 gave London's local authorities the power to compulsorily purchase land for improvement schemes but they were obliged to re-house at least half of those displaced by the demolition. This resulted in experiments in early 'council housing' in the Bethnal Green Boundary Street Estate and in other parts of the inner city. London County Council (LCC) estates included Totterdown Fields in Tooting and the White Hart Lane estate in Tottenham. The Old Oak estate in Hammersmith began in 1911 was the first LCC estate built along garden-suburb lines and was greatly influenced by Scott, Parker and Unwin (Colquhoun and Fauset, 1991). Characteristic developments included

houses with three or four bedrooms, gardens and ample open space and greenery.

5.2 Entering the Twentieth Century - Local Authority Housing

In spite of the obvious achievements of the LCC estates mentioned above, by 1914 only 1% of housing stock in Britain was council-owned (Colquhoun and Fauset, 1991, 27). World War I disrupted much of the house-building programme and exacerbated the existing housing shortage. Balchin and Rhoden (1998) claim "it was not until after the First World War that local authority housing took off" (Balchin and Rhoden, p5).

With the introduction of conscription in 1916, and the fact that four out of ten conscripts were deemed unfit for military service, came an increasing volume of debate about the health of the nation and the condition of the nations' housing stock. The problem of housing density was identified by a Select Committee in 1918.

The 1919 Addison Act recognised the principle of state-aided housing. Sim (1993) notes "the Governments' 'Design Manual' (based on Tudor-Walters principles) was highly influential" (Sim, p31) for local authorities' designs of new housing schemes. Five hundred thousand homes were identified as the immediate need in 1919.The Chamberlain Act of 1923 and the Housing Act of 1924 were enacted in an attempt to meet this perceived need. Subsidised housing for ex-servicemen was introduced in the early 1920's and these became widely known as "Homes Fit for Heroes" (Colquhoun and Fauset, 1991, p27).

Council Housing Estates were the eventual result of such legislation, with crescents and cul-de-sacs being amongst the most popular designs. Houses often had small front gardens and there was generally some public space in verges lined with trees between the pavements and the roads. Examples include the Becontree Estate in North-East London, Wythenshawe in Manchester, Knightswood in Glasgow, Chesser in Edinburgh, Low Hill in Wolverhampton and Ely in Cardiff. Emphasis on the provision of Council Housing can be traced from around 1930 onwards.

Figure 5.2.

Local Authority Housing Developed Under the Housing Act of 1924.

Source: Balchin and Rhoden (1998, p6).

5.2.1 The 1930 Greenwood Act

The 1930 Greenwood Act introduced a new government subsidy based on the number of people re-housed rather than the number of new units erected. Subsidies were higher for flats of more than three storeys. "Flatted Estates", for example in Quarry Hill, Leeds, were made up of a series of crescents of 6-8 storeys with a range of community facilities located on the estate. In Liverpool, the tendency was for 4 and 5 storey tenements with balconies. A typical example can be seen in Figure 5.3.

Figure 5.3.

Local Authority Housing Developed Under the Housing Act of 1938

Source: Balchin and Rhoden (1998, p8).

5.2.2 Suburban Sprawl and 'Ribbon Development'

This concerns the development of housing along new roads and rail links, and was predominantly private sector, speculative and semi-detached. These designs reflected the Tudor-Walters principles, and included front and back gardens, a sitting room, dining room, three or four bedrooms and a separate bathroom. Garages now became more common place, often at the side of the dwelling or within the fabric of the structure itself. These suburban estates reflected the increasing dominance of the motor car possessing wider, gently curving roads named 'drives', 'avenues' or 'ways'. Porches and bay windows were also common features to be found. An example of 'ribbon development' can be seen in Figure 5.4.

The territorially separate, single-storey bungalow began to appear simultaneously in both resort areas and in expanding suburbia. In Glasgow, Mactaggart and Mickel developed large bungalow style estates in the 1930's.

Figure 5.4. Owner-Occupied Suburban Housing of 1930's.

Source: Balchin.and Rhoden (1998, p9).

5.2.3. Mansion Flats

Mansion blocks of flats are characterised by lifts and 'private' common areas with access from the street strictly controlled, often with the use of a concierge. Examples are to be found in Kensington and Chelsea and in Kelvin Court, Glasgow, where there are some one hundred flats in two eleven storey blocks.

5.2.4 Detached Housing

Associated with wealthier parts of the suburbs is the architect-designed detached house, which incorporates some of the modern ideas and new approaches to design in Europe, such as the Modern Movement of the post-war reconstruction period. Goodchild (1997) claims such housing may well be land hungry, sensitive to land prices and inflation, but this design is nonetheless "popularly considered to be the ideal house" (Lynch, 1989, p272). Examples of such housing can be seen in Figure 5.5 below.

Figure 5.5 Detached Housing

Source: Goodchild (1997, p24).

5.2.5 Post-World War II Housing

The Barlow Report of 1940 recommended the redevelopment of congested inner urban areas and encouraged the development of the British New Towns Programme and the ground breaking 1947 Town and Country Planning Act. Abercrombie stands out as the dominant thinker in the re-planning of much of Britain, working personally in London, the West Midlands, Plymouth, Hull and Edinburgh. Design issues were becoming increasingly influential in housing provision and Sim (1993) observes that "design became an important element of post-war housing provision" (Sim, p48). The government prepared manuals based upon the recommendations of the 1944 Dudley Report into the Design of Dwellings and confirmed the 'neighbourhood' as being the most desirable and fundamental social unit. This development was also influenced by Howard's Garden City Movement. Five to ten thousand people with a range of facilities, at densities of 30-40 persons per acre were recommended, with an emphasis on the provision of three-bedroom, two-storey houses. Colquhoun and Fauset (1991) claim that, for larger estates, the 'Radburn' planning principles were adopted to

separate vehicular and pedestrian movement and encourage 'mixed' developments of houses and flats.

The urgent need for a rapid rebuilding programme was realised before the end of the Second World War and consequently between 1945 and 1951 some 900,000 council houses were built by local authorities and 150,000 by private developers (Colquhoun and Fauset, p41). A further 157,000 limited life-span prefabricated homes (known as 'Prefabs') were erected which were mainly single-storey, although only a few remain inhabited today. The majority of house building carried out in the 1940's was in the domain of council housing. Anuerin Bevan refused to compromise quality for cost considerations and much of this housing was predominately 'traditional', semi-detached designs with front and rear gardens (Sim, 1993). Housing was consequently a key issue in the 1951 election, which was influenced by the Conservative Party's pledge to build a minimum of 300,000 new homes per year.

5.2.6 Council Housing.

The Conservative Government, in the 1952 Housing Manual, favoured terraced designs and flats in small two and three-storey developments. These were termed "People's Houses" but have been fiercely criticised for reducing standards and increasing densities in order to achieve political targets. In 1954, however, the target was exceeded and some 348,000 new homes were completed. By 1964 the returning Labour Government pledged to build 500,000 homes per annum (Colquhoun and Fauset, 1991). Indeed, they claim that with the return of a Labour government, house building increased in accordance with "we can build more than you politics" (Colquhoun and Fauset, 1991, p43).

5.2.7 New Towns

By 1950 fourteen "Phase One" new towns had been designated. These were designed to house populations of approximately 50,000 in low density, self-contained two-storey dwellings, often terraced. The Parker Morris Report of 1961 produced the archetypal design of the semi-detached and two or three-storey terraced home, many of which were now to be built with integral garages.

5.2.8 High-Rise Developments

Just as the economic crisis of the 1940's had prevented Bevan from building as many units as he had wished, so inflation in the 1960's, and the introduction of the Housing Cost Yardstick in 1967, led to severe problems in maintaining the Parker Morris standards. Sim (1993) asserts that "the solution adopted extensively in the post-war period, was to build more houses, more cheaply and on less land" (Sim, p68). The development of high-rise housing was therefore made more politically acceptable for two widely contrasting reasons. Firstly, the quantitative shortage of housing in the 1950's, due to the baby boom of the 1940's, and secondly, as a result of architectural innovation which was reflecting advances in building and materials technology.

The origins of high-rise are located in the 1930 Housing Act, which provided local authorities with an additional subsidy to provide flatted estates for slum clearance families; a position consolidated by additional acts in 1933, 1935 and 1938. For some, flats offered an opportunity to build new and improved forms of accommodation for the working classes and were ultimately viewed as preferable to suburban sprawl. For others, "flats presented an image of nineteenth century philanthropy and represented little advancement from the days of Peabody" (Sim, 1993, p70).

Various developments in Europe had dramatically redirected the debate, especially the supporters of the Modern Movement and the Bauhaus School. Architects such as Walter Gropius and Mies Van der Rohe encouraged the novel use of glass, steel and concrete with strong angular lines - which could facilitate large scale innovative building projects. Figure 5.6 illustrates the design. Perhaps the most influential force promoting the popularity of high-rise developments was the Swiss architect, Le Corbusier. He imagined vertical cities of towers, serviced by modern road-links and with open space provided between the blocks. They would be 'machines for living in' and one prime example is the eighteen-storey block of 337 flats in Marseilles known as "Unite d' Habitation", built between 1946 and 1952. The design included such radical features as a crèche, kindergarten, rooftop swimming pool, play area, gymnasium and running track with adjacent garages and sports ground.

The idea was that of 'streets in the air', serviced by elevators from which the individual dwelling was accessed. Although Le Corbusier is now criticised for some of the shortcomings of multi-storey buildings, Sim (1993) declares "such failings stemmed in many cases from poor implementation of the ideas rather than the ideas themselves" (Sim, p71).

Figure 5.6 High-Rise Local Authority Housing - 1960's

Source: Balchin and Rhoden (1998, p16)

In Britain, the first high-rise development was 'Highpoint One', built in 1936 in Highgate, London. Further developments included LCC projects such as the 5-6 storey blocks on the Kensal Estate, Ladbroke Grove and the 8-9 storey blocks with lift access in Churchill Gardens, Pimlico, built in 1946. Early schemes sought to achieve relatively high building standards, such as the LCC estate in Roehampton built in 1952. This consisted of 1,850 dwellings of 11 and 12 storey blocks and low-rise maisonettes. The site also included schools, shops, a library and was set in the rolling parkland of Richmond Park. Other estates (with somewhat less verdant landscaping) were built in Brixton and Hackney.

Building on the periphery of the city sometimes occurred, as in the Kirby and Huyton Estates in Liverpool. Some local authorities were opposed to such over-spill, an example being Glasgow, which preferred to re-house within the city boundaries. Indeed, Basil Spence was commissioned to design the 20-storey blocks in the Gorbals, Glasgow. Table 5.1 illustrates the distribution of high-rise provision for certain areas of Britain.

Table 5.1.

High-Rise Provision by Storey Height in Selected parts of Britain

	6-9 storeys		10-19 storeys		20 + storeys		Total	
Area	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
West Midlands	528	69	216	27	21	3	765	100
GreaterManchester / Merseyside	52	13	312	81	24	6	388	100
Strathclyde	12	3	168	46	183	51	363	100
Tyne and Wear	31	21	107	73	8	6	146	100
S & W Yorkshire	37	13	222	79	24	8	283	100
Greater London North	425	54	305	38	64	8	794	100
Greater London South	565	56	341	34	99	10	1005	100
All authorities	**1837**	**40**	**2141**	**47**	**453**	**10**	**4570**	**100**

Source: Sim (1993, p78), (Rounding of data errors found in original).

The construction of such developments peaked in 1964 (Colquhoun and Fauset, 1991) and began to fall away after 1967, particularly with the collapse and subsequent demolition of the twenty-two storey Ronan Point development in London. By the end of the 1960's, 10% of Britain's housing stock was high-rise development, concentrated mainly in London and other major metropolitan centres. Colquhoun and Fauset claim that by the 1970's "enthusiasm for new high-rise council housing had waned" (Colquhoun and Fauset, 1991, p43).

On the subject of the problems of high-rise structures, particularly in relation to meeting the needs of the working classes and those families with children, Hall (1996) claims that Le Corbusier, as a childless member of the middle classes, was

blissfully unconscious of such issues. He opines that "the Corbusian city of towers was perfectly satisfactory for the middle class inhabitants whom he had imagined living their gracious, elegant, cosmopolitan lives in La Ville Contemporaire ... but for a welfare mother ... with a brood of uncontrollable children, it proved an urban disaster of the first magnitude" (Hall, p240). Hackney (1990) concurs, and maintains that Le Corbusier was a totally inappropriate person to design homes.

Although the policy by which tenants are allocated council housing has undoubtedly changed, persistent structural and social problems are inherent in the design of high-rise dwellings. Indeed, it may be postulated more generally, that the allocation of low quality housing to the poorest and least privileged sections of society, and the lack of adequate management of such housing, contributes to the dramatic and widespread images and perceptions of negativity found in all British cities.

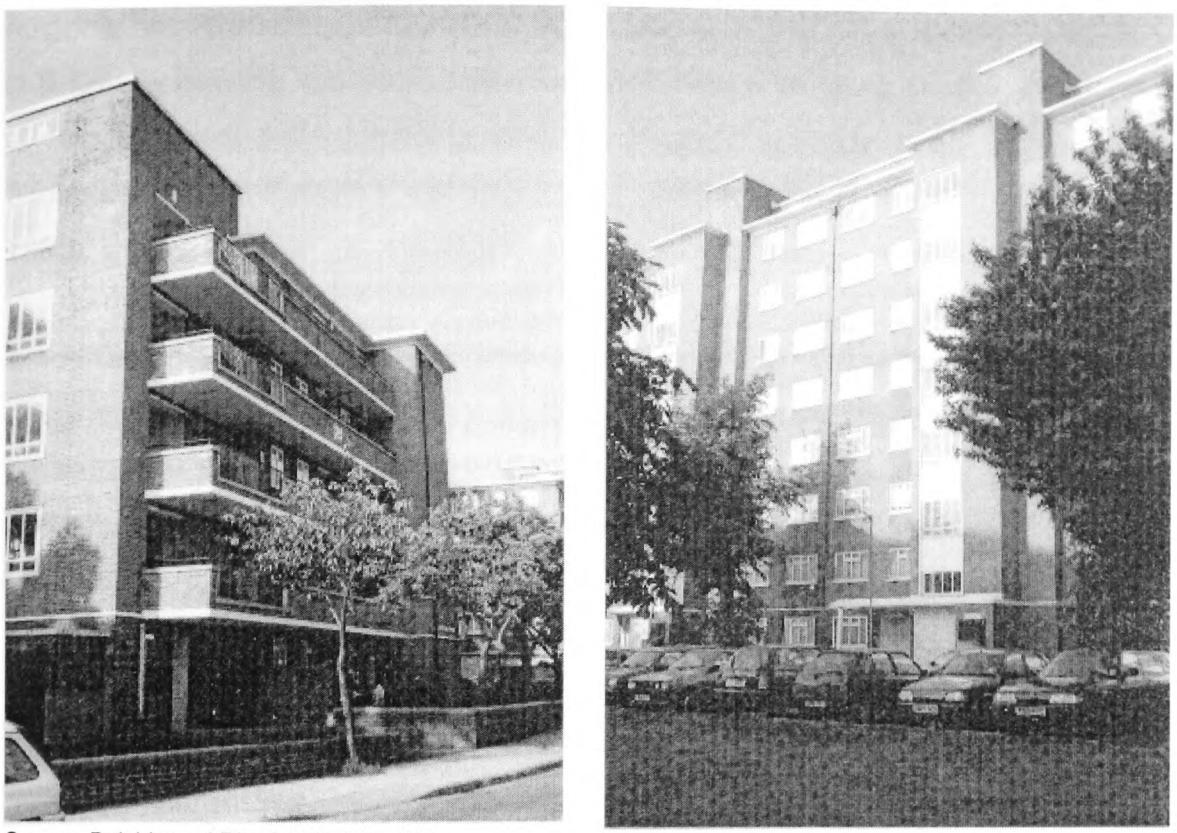
5.2.9 Deck-Access Housing

Sim (1993) also identifies low/medium rise, deck access dwellings. Entry to the flats is achieved via decks or walkways of about ten feet in width, which were intended for both access and social interaction. Examples are the Park Hill, and Hyde Park Estates in Sheffield. Such dwellings gained popularity in the 1960's and the design was considered appropriate not only for social interactions but also for the ease of use of bikes, prams and shopping trolleys. Figure 5.7 provides illustrations of such designs.

The introduction of industrial building techniques resulted in more linear street decks and often a brutal appearance, which was consequently less attractive to some. He also claims that the British climate defeated the "Tracoba" system of construction imported from Europe and Africa in the Hutcheson Town E Scheme (1968) - damp was a widespread problem, which contributed to the decision to demolish the development in 1987. The Broadwater Farm Estate in London and the Hulme Estate in Manchester are two such examples. Unpopular design failings created management problems, and increasingly, such housing was let to the homeless, socially alienated and marginalised members of the community. Such design faults and problems were dramatically highlighted as early as 1968,

with an explosion and the partial collapse of Ronan Point in Newham, East London. This building was subsequently demolished in 1986.

Figure 5.7. Low and Medium-Rise Post-War Local Authority Housing



Source: Balchin and Rhoden (1998, p11).

According to Sim (1993), some 10,000 dwellings built after 1970 were demolished within the next fifteen years. The government recommended improvements and strengthening of all system/industrial built tall buildings and some local authorities in the 1980's encouraged replacement by terraced/semi-detached dwellings (e.g. Liverpool). Other authorities preferred to tackle the growing problems of managing these estates via tenant involvement, improved lighting and security and with the introduction of more sophisticated caretaking / concierge systems.

5.3 Housing Associations

Low-cost home ownership initiatives were introduced by the Thatcher Government in 1981. Local Authorities were encouraged to set up partnerships with private developers in order to sell cheaply to certain groups (i.e. those on council waiting lists). Certain groups, however, (i.e. those ineligible for mortgages) still could not

afford to buy. Goodchild (1997) claims that from about 1985, policy shifted away from building for sale to building by housing association.

Lloyd-Jones (1998) observes that the 1980's "saw the demise of the local authority house-building programme" (Lloyd-Jones, p234) which is now exceeded in Britain by housing association developments. Social housing (local authority and housing association) remains relatively low by comparison to the 1970s or earlier decades and much lower than that of private house builders (Lloyd-Jones, 1998).

Since 1993, SBD has been adopted in Wales for all new social housing that is developed by registered social landlords. Consequently, 14,000 houses and flats have been designed and developed to such specifications, according to a press release by the then First Secretary to the National Assembly for Wales, Alun Michael (1999). He also commented on the private sector's indifference to SBD, commenting that "the lack of impact in the new private housing sector must be seen as disappointing" (Michael, 1999). Pascoe and Topping (1998) observe that since 1989, when the initiative was launched in the U.K, 35,000 SBD properties have been constructed on nearly 3,700 estates, involving over 630 builders (Home Office Crime Prevention College (1996).

Such trends do warrant consideration, particularly in a Welsh context and it seems likely that house building by housing associations will eventually replace local authority housing all together sometime in the future.

5.4 New-Build Housing

Burnett (1986) discusses new-build housing and states that "in the post-war speculatively built house, as in the local authority house, the most significant improvement was in quality rather than in any increase of space" (Burnett, p327). He notes that quality relates primarily to amenities, services and fittings rather than the quality of building construction. In addition, Burnett contends that in 1970, 61 % of all new dwellings had floor areas of between 750 and 1000 square feet, while "there are now *(1986)* substantially more below and above this range" (Burnett, p327). He comments that "in terms of built form ... the recent trend has

been towards greater differentiation and wider dispersal of space standards" (Burnett, p327)

Figure 5.8 New-Build Starter Homes Completed for Owner-Occupied Market.

Source: Balchin and Rhoden (1998, p11).

A typical new-build design can be seen in Figure 5.8. The government's projection of households to 2016, estimates that 4.4 million new homes will be required (DOE, 1995). The criminogenic capacity of all residential designs is largely unknown, and it has been argued that future developments offer a unique opportunity for evaluation in this regard (Cozens *et al.*, 1999a; 1999b).

In Wales, the adoption of the police force's SBD initiative for all new-build social housing has facilitated evaluation of the initiative itself (Brown, 1999) although a specific analysis of the criminogenic capacity of existing housing designs has not been conducted. In England, SBD is non-obligatory, and research has again investigated the performance of the SBD initiative, rather than specific housing design typologies (Pascoe, 1999; Armitage, 1999).

5.5 Housing Policy

A review of the most common housing designs and a brief historical, political and economic background has been provided. Housing policy and the private housing market, however, require a brief evaluation.

Murie (1997) explores some of the issues that link housing and crime. He notes how "the increasing associations between crime and council housing have generated a number of studies in recent years" (Murie, p23). The role played by the media, in part propelled by Home Office crime statistics, is probed; "media and other images of crime in contemporary Britain are generally associated with particular areas of housing ... in particular ... with large mass council estates and form part of the stereotypes and moral panic associated with council estates" (Murie, p22). The British Crime Survey (BCS) of 1998 indicated that council tenures were almost twice as likely to experience burglary than owner-occupied property. (Mirrlees-Black *et al.*, 1998). In addition to being more likely to become victims of crime, the residents of 'poor' council estates are also more concerned about becoming victims of burglary (Mirrlees-Black *et al.*, 1998).

There is an obvious need to understand housing policy and the housing allocation system to assist in the comprehension of the association between crime and council housing in particular. Indeed, Murie (1997) notes "the affluent working-class neighbourhoods which made up much council housing in the inter-war and post-war years, were not associated with crime and social disorganisation" (Murie, p24). Crime was instead, associated with "the declining inner-city neighbourhoods with deteriorating private rented housing, high levels of turnover and lack of social cohesion" (Murie, p24). The association of problem estates with slum clearance meant certain estates developed poor reputations and became stigmatised. According to Murie (1997) "the spatial concentration of crime and victimisation owes a considerable amount to the spatial concentration of council housing" (Murie, p26).

A long-term process of 'residualisation' can occur whereby "council housing becomes less affluent tenure, catering disproportionately for lower income groups, older people, people outside the labour market and for the non-working poor"

(Murie, 1997, p26). It is also claimed that as the private rented sector declined, the poorest of those previously renting began to be housed in the council sector. Data related to lone parents, unemployment and relative deprivation "demonstrate*(s)* that the social base for council housing was becoming narrower and associated with more deprived sections of the community" (Murie, pp26-7). This process has also been referred to as marginalisation and socio-tenurial polarisation. It argues that "council housing has shifted from housing for the working class to housing for the non-working class and those who are marginal to the labour market" (Murie, p27).

Differentiation refers to the "sorting of the population into different tenures" (Murie, p27). This process produces its own momentum where affluent groups leave council housing more rapidly than in the past and are less representative of those entering this sector. Literature on delinquent areas demonstrates "that there were in most cities, parts of the council housing stock which were regarded as stigmatised, which had a low reputation and which were avoided by all but those who had no choice" (Murie, 1997, p28). He cites the work of Damer (1974) and claims that the origins of reputations of estates are historically related to those who were originally housed there and the social reputation associated with these first inhabitants. The fact that offence and offender rates are lower on council estates which are predominantly privately-owned is simply an indication that such rates are lower in less deprived and more attractive council estates. Polarisation between estates is indicated through the process of privatisation and also by available recorded crime statistics.

According to Murie (1997), studies of the process of allocation (Henderson and Karn, 1979; Phillips, 1985) "suggest a tendency to distinguish between the rough and the respectable, and to channel the respectable households towards stable, non-problematic estates so as not to put these estates at risk" (Murie, p29).

Characteristically, areas with the highest levels of home ownership had low turnover rates, high levels of employment and relative affluence. One image of such housing can be seen in Figure 5.9.

Figure 5.9 Former Council Houses Renovated Under Owner-Occupation.

Source: Balchin and Rhoden (1998, p11).

The processes operating at an estate level are identified as complex and varied in nature. As parts of the market become associated with poverty, those with a choice are less likely to move to, or remain in such areas. Facilities / services are often of a poor standard or absent and low motivation, unemployment and under achievement can "create huge pressures ... lead to tensions between neighbours and together with high population turnover, mean that residents are vulnerably to crime and the fear of crime" (Murie, 1997, p30).

However, the increase in council house owner-occupiers since the right-to-buy policy of the Thatcher Government, has effectively meant that the council estate is no longer a homogenous tenure.

The socio-economic and demographic dimensions to criminality cannot be ignored, as Chapters 3 and 4 have demonstrated. Exploring socio-economic associations, it is argued, can contribute in this regard.

In terms of the mechanics of the private housing market, the interaction of supply and demand clearly dictates house prices, and to a large extent, the 'image' of the neighbourhood. The housing market itself may well be influenced by employment trends, business and investment and is therefore a complex issue. It is apparent that any investigation of the criminogenic potential and the 'image' of housing designs necessitate some consideration of the operations of both housing policy and the housing market. This aspect of the inquiry is considered by examining the socio-economic associations relating to each design typology. How each design is perceived may provide insights in this regard for understanding how variously configured housing designs encourage or discourage criminal activity.

5.6 Summary

As revealed in the historical analysis, there are a number of housing designs present in Britain, which have avoided engagement with Newman's theory. The 'fear of crime' with regard to these residential designs identified above, offers potentially interesting data sets for investigation. Housing types can be measured according to their perceived safety or risk level, although images may be influenced by, and be inextricably interwoven with, social and economic perceptions of space as well as spatial and design aspects.

As already stated, there is no simple classificatory framework available for Britain's housing stock. For pragmatic reasons and to facilitate a meaningful and operational analysis of the criminogenic capacity of design, the selection of various housing categories, derived from the historical analysis summarised above, is necessary. The Housing Statistics for England (DETR, 1999) provide a useful categorisation of the design typologies that do exist, and are presented in Table 5.2.

The Government's statistics for England reveal that of the 20 million or so households, 19.1 million (93%) are represented by properties in the first four columns. These housing designs are; detached (4.3 million), semi-detached (6.3 million), terraced (6 million) and purpose built flats (2.4 million), (DETR, 1999).

Table 5.2 Housing Statistics in England by Type, in Thousands.

contained	Detached	Semi-detached	Terraced	Purpose- - built flats/ maisonettes	Converted flats/ maisonette	Others (caravan, boat etc)	Non-self
All owners	4,081	4,826	3,990	669	312	40	100
%	29	34	28	5	2	0	1
All social renters	49	1137	1,380	1,476	163	4	141
%	1	26	32	34	4	0	3
All private renters	211	390	599	293	362	15	174
%	10	19	29	14	18	0	9
All tenures	**4,341**	**6,353**	**5,969**	**2,438**	837	58	424
%	**21**	**31**	**29**	**12**	4	0	2

Source: Survey of English Housing (DETR, 1999) (rounding errors present in original statistics).

In Wales, approximately 1.2 million households provide a broadly similar breakdown, as presented in Figure 5.3. These four categories of design therefore represent the most common designs.

Table 5.3 Housing Statistics in Wales by Type, in Thousands.

	Detached	Semi-detached	Terraced	Flats and other
All tenures (000s)	**264**	**387**	**405**	**101**
%	**23**	**34**	**35**	**9**

Source: Welsh House Conditions Survey (Welsh Office, 1998).

Criminality in high-rise flats and deck-access / walk-up flatted estates, have been investigated using official statistics (Newman, 1973; Coleman, 1985; Poyner, 1994). Chapters 2 and 3, however, argue that inconsistencies and contradictory findings have resulted and that a re-evaluation is necessary. These two designs are therefore utilised to represent the 'multiple dwelling units' (MDUs). High-rise and low-rise / walk-up flats are selected for investigation in addition to the three

most common designs, which represents the 'single dwelling units' (SDUs); the detached, semi-detached and terraced housing types. Investigating crime and deviancy, the fear of crime and the perceptual elements of 'defensible space', in relation to these common housing types, is considered to be an innovative, appropriate, and potentially useful approach.

Since the perception of space undoubtedly extends beyond the limits of the dwelling in isolation, this work focuses upon the dwelling in its immediate surroundings (garden or grounds). Indeed, Levitt (1992) argues that "moving outward (from the dwelling) there are crucial defensible space issues involving common hallways for flats, front gardens for houses and the inclusion of garages or dedicated hardstandings in the immediate vicinity of each dwelling" (Levitt, p11).

Sim (1993) contends that "the external environment - the layout of the estate, the road pattern and provision of open space is inexorably linked to the design of the dwelling since people live outdoors as well as within the home " (Sim, p89). According to Sim (1993), "much of the attention of housing designers in the post-war period was focused on internal housing layout, often to the detriment of the external environment" (Sim, p103). He cites studies by the DOE, which suggest that "good layout" must incorporate three important themes: aspect, access and open space. Aspect is concerned with the outlook and orientation of the house (facing south or away from blank walls or utilising views of gardens or open space) which can reduce social isolation and increase some forms of surveillance. Access refers to the road layout, parking and pedestrian movement, which should be co-ordinated to reduce conflict and ensure areas are safe, well lit and highly visible. Underpasses and footbridges are identified as particular problem of modern designs. As far as open space is concerned, play areas and landscaping have often simply represented land that has not been built upon, referred to by cynics as SLOAP (spaces left over after planning). Attention to environmental management, for example landscaping and a choice of trees and shrubs, is important in nurturing a positive character for such areas – too little can produce a despoiled environment, too much can hinder surveillance.

The influence of the wider environment was indeed recognised by Newman (1973) and is represented by the fourth 'defensible space' mechanism of 'geographical juxtaposition. Limited work has been carried out on this aspect, for example, Hirschfield *et al.,* (1995) studied the relationship between crime and disadvantage in Merseyside and stated that two distinct processes may be in operation. Firstly, a condition may exist "where affluent areas are largely surrounded by disadvantaged areas and is characterised by relatively high crime rates in the former" (Hirschfield *et al.,* p110). Secondly, a process may operate "where disadvantaged areas are surrounded by affluence" where "... potential offenders in disadvantaged areas are continually exposed to affluence, become demoralised and offend in their own area" (Hirschfield *et al.,* p110). However, although practitioners of CPTED, 'defensible space' and SBD would certainly consider the significant influence of the wider urban environment, it is not the focus of this investigation.

Interestingly, interpretation and implementation of much of the work of Newman (1973) has centred upon the twin issues of territoriality and surveillance in particular. Crucially, in the discussion of 'defensible space', Newman identified "the capacity of design to influence the *perception* of a project's uniqueness, isolation and stigma in the form of housing projects" (Newman, p50). An inquiry into the perception of the characteristic housing typologies is seen to redress this aspect of Newman's work, which has received scant attention in the last thirty years. Indeed, Newman (1973) claims interviews with tenants resulted in "the unmistakable conclusion that living units are assessed by tenants not only on the basis of size and available amenities but on the basis of the lifestyle they symbolise and purport to offer. Building prototypes, from row housing to high-rise, symbolise various forms of class status" (Newman, p106). It is this symbolism and imagery that represents the focus of investigation.

Ham-Rowbottom *et al.,* (1999) have recently studied the perceptions of the police, residents and burglars concerning detached houses only, and comment that "the physical and social attributes of residences and surrounding neighbourhoods influence the perceptions of both residents and visitors" (Ham-Rowbottom, p117). Such an investigation of Britain's most dominant housing designs represents an

intriguing approach that probes for detailed insights into 'defensible space', crime and deviancy, and socio-economic associations of the sample groups selected. The review and critical evaluation of 'defensible space' in Chapters 2 and 3 have highlighted the crucial necessity to re-evaluate this highly influential and increasingly popular theory. Since the theory concentrated upon high-rise and low-rise/walk-up flats, these two designs certainly warrant further investigation. This chapter has provided a brief historical review of British housing policy and argues that three further designs require inclusion, namely; detached, semi-detached and terraced housing. It is further postulated, that in consideration of the inherent social component to criminality, these five designs require representation on two levels; a well-maintained property and one that is poorly-maintained, perhaps even partially run-down or derelict. In addition to assisting in the formulation of the research methodology, this chapter also provides a social, political and economic perspective to housing which is essential to providing an informed and pragmatic approach to the production of policy implications in Chapter 14.

The perceptions of key stakeholder groups, such as police officers, town planners, convicted burglars, and citizens are considered as crucial and significant avenues for exploration. Commonalities and pluralities of perspective are therefore investigated in relation to the extent to which 'defensible space' is perceived, decoded and understood.

Chapters 3 and 4 have argued that the use of 'defensible space', CPTED and SBD initiatives, based firmly on Newman's ideas, have ignored the concurrent 'defensible space' concepts of 'image and milieu' and a consideration for the perceptual elements of Newman's theory. The images and messages transmitted by the built environment and consumed by society, and in particular, key stakeholders and policy makers, may be a powerful force in the potential creation of both crime and the fear of crime.

According to Stollard (1991) "to suggest that better design and layout alone can offer solutions to the problems of crime and security on new and existing housing developments is to ignore a whole range of social and economic factors which can affect the levels of crime in a particular area "(Stollard, p84). Indeed, these socio-

economic factors are inextricably interwoven within the image and perception of these specific housing typologies. Newman (1973) noted the work of Rainwater (1966), in an analysis of the Pruitt-Igoe estate; "the physical world is telling them that they are inferior and bad, just as effectively perhaps as do their human interactions" (in Newman, p108). Murie (1997) has provided some insights into the 'image' and stigma associated with social housing and Mumford (1961) observes that "detachment and openness were originally attributes of the palace, reserved ... for the small group of nobles and officials who served the rulers of the early cities" (Mumford, p79). The perception of stereotypical British housing designs therefore represents and intriguing approach to investigating crime and the built environment.

Chapter 4 has rejected the use of official statistics to evaluate the criminogenic capacity of housing designs, in favour of utilising the fear of crime as the measure for criminality. Such an approach necessitates a review of literature concerning the fear of crime and an understanding of the psychological process of perception. Chapter 6 therefore, discusses the fear of crime and Chapter 7 investigates environmental psychology and perception. These reviews, allied with the above examination of housing, facilitate progress regarding the design and construction of the research methodology, in addition to providing crucial background knowledge for understanding some of the complexities of the relationship between crime and environmental design.

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Chapter 6

An Investigation into the Fear of Crime and the Built Environment.

6.0 Introduction and Philosophy

The broadly stated aims of the research, are to assess the relationship between the built environment and crime, evaluate perceptions of 'defensible space' and probe socio-economic associations related to selected common housing designs. Since the actuality of crime is unknown and there is considerable uncertainty regarding 'crime', as measured by officially-derived statistics, an alternative approach is required to provide a more appropriate and cogent representation for criminality. Chapter 4 argues that in consideration of the lack of reliability associated with official and other crime statistics, an inquiry into the fear of crime within the community may prove more fruitful to the analysis of the criminogenic capacity of urban residential space. Such 'space' is defined not by the bounds of the neighbourhood or community but rather by the built structure and its immediate environs. Chapter 5 investigates housing typologies in Britain and focuses on the five most dominant designs, and provides an intriguing and unique avenue for investigation. Detached, semi-detached and terraced housing were selected as single dwelling units (SDU's) while low-rise/walk-up flats and high-rise flats represent the chosen multiple dwelling units (MDUs). Two contrasting versions of each design, one that is well-maintained and one that is poorly-maintained, were selected and presented to interviewees.

This research therefore investigates the relationship between these common housing designs and the fear of crime, in addition to evaluating the first three concepts of Newman's 'defensible space' theory. Socio-economic associations are also probed. The polarised images of the same designs are therefore crucial to achieving this objective.

This chapter examines the development of this research into the 'fear of crime', attempts to explain and define the 'fear of crime' and reviews the research associated with this topic. It has been demonstrated that a hiatus exists within this research in that specific residential types have not previously been examined with regard to 'defensible space', crime and the fear of crime. A review of the research into the fear of crime serves to highlight this discontinuity, in addition to informing as to the design, development and refinement of the research instrument. This

chapter also provides insights into the highly complex nature of investigating the fear of crime.

6.1 Fear of Crime – A Brief History

Interest in the fear of crime is a relatively recent development, originating in the United States in the 1960s, amidst a period of racial tension, rioting and increasing urban violence (Zedner, 1997, p586). According to Hale (1996), the fear of crime represents a major growth area since the 1960's for academic research and policy initiatives, particularly in the U.S.A. and Britain. Household crime surveys and victimisation studies at a national scale have done much to promote this growth. These studies attempt to provide a more meaningful image of the level of crime victimisation and provide information concerning citizens' beliefs and attitudes towards crime in a more qualitative framework. For Zedner (1997) the victim survey "pinpointed an entirely new area for criminological enquiry" (Zedner, p587)

In addition, Walklate (1997) cites the work of Karmen (1990), who claims there has been a movement from crime prevention to victimisation prevention, largely since modern research has repeatedly revealed that victimised people and places represent a significant proportion of all crime. Indeed, Harries (2000) has recently commented that "fear is not usually accorded the attention it deserves" (Harries, p28).

Considerable research has been carried out in the area of fear of crime and the findings are often diverse and contradictory. Early studies concentrated on two main factors as possible correlates of fear. Firstly, the concept of vulnerability (physical, psychological or economic), and secondly, the level of crime experienced directly or through knowledge of neighbours' experiences or popular media coverage. Much of this work was stimulated by the observation that fear of crime was more prevalent than the actuality of crime itself, and that those most fearful often appeared to be those least at risk (women and the elderly). The level of fear of crime in relation to crime itself has also encouraged a modern emphasis on fear of crime; "researchers and public officials alike have recognised the importance of addressing fear of crime independent of crime itself" (Rohe and

Burby, 1988, p701). Indeed, in recognising the fear of crime as a distinct area for study, various theoretical problems are presented, which demand careful deliberation.

6.2 Defining Fear of Crime

One crucial problem has been establishing a precise definition for 'fear of crime'. There is no clear consensus in the existing research as to what it is, or how it can be measured. Indeed, as Hale (1996) observes; "...one of the principal reasons for conflicting findings concerning fear of crime lies in the confusion and lack of agreement in the construction of empirical instruments" (Hale, p80). More recently, Koskela and Pain (2000) commented that "...there is no common agreement on what 'fear of crime' is" (Koskela and Pain, p271).

Such confusion has resulted in a debate on the rationality of fear. Hale (1996) identifies a "lack of clarity and a failure ... to distinguish between risk evaluation, worry and fear" (Hale, p84). Fear of crime may also include various measures for 'insecurity with modern living', 'quality of life', 'perception of disorder' or 'urban unease'. Hale acknowledges four intriguing issues. Firstly, the concentration of criminology on 'ordinary' or 'real' crime, rather than on corporate or 'white-collar' crime, is mirrored within research into fear of crime. The research documented within this thesis provides some insights in this regard, particularly with reference to housing designs perceived to be 'middle class'. Secondly, fear has been conceptualised as something that is simply, present or absent in people. Fattah and Sacco (1989) claim this view "precludes a detailed consideration of the ephemeral, transitional and situational nature of fear" (Fattah and Sacco, p211). Thirdly, Fattah and Sacco (1989) note a reliance upon quantitative techniques resulting in fear being treated as a concrete individual attribute rather than a "hazy and problematic social construction". Such surveys therefore restrict the examination of fear as a changing, dynamic process. Hale (1996) does note some application of qualitative techniques, particularly by feminist criminologists, but claims "the potential of alternative approaches has still to be fully exploited" (Hale, p85). Finally, Fattah and Sacco (1989) acknowledge that most recent research considers fear of crime as a social problem, which can seriously damage social

and psychological stability. However, they stress the need to distinguish between fear and caution. Indeed, some citizens report that they are fearful when they may mean they are being cautious. Indeed, a certain amount of fear may be a positive trait and encourages people to guard against potential victimisation. However, this concept may best be considered to represent awareness or concern rather than fear (Home Office, 1989).

It is argued, therefore, that the utilisation of both quantitative and qualitative questions in the research methodology represents a systematic and quantifiable investigation into how fear of crime is perceived, relating to characteristic British housing designs, while also probing subjective individual understandings and general fears.

6.3 Measuring Fear of Crime

Chapter 4 argues that measuring crime is demonstrably problematic and this chapter demonstrates that measuring the fear of crime is similarly fraught with difficulties. 'Global measures' for fear, which make no reference to specific crimes have predominated in recent research. Examples of such approaches include: 'how safe do you feel being alone in your area at night?' and 'is there any area close by, where you feel unsafe walking at night?' Such questions however, may be measuring judgements about the likelihood of individual victimisation rather than a global fear of crime. (Ferraro and La Grange, 1987). The inclusion of a reference to the term 'fear' has been utilised by some researchers and questions are amended to those such as; 'is there anywhere around here – that is within a mile – where you would be afraid to walk alone at night?' However, the criticism of lack of specificity can still be applied with regard to type of crime. Garofalo (1979) claims crime should be specified explicitly, and similarly, the area or neighbourhood in question should be precisely demarcated. The research methodology adopted is certainly site-specific in its focus upon selected housing designs.

Questions which include activities such as 'walking alone at night', are also criticised in terms of relevance, since such activity is, for most people, rare, and

for some, it is simply not undertaken at all. Rohe and Burby (1988) make the point that "questions that ask respondents if they are afraid of walking in their neighbourhood at night may be more likely to conjure up threatening images, some of which may not even be related to crime" (Rohe and Burby, p711). The merging of actual and hypothetical questions, such as 'do you or would you feel unsafe?' should also be avoided. Hale (1996) notes that such observations are not new. Furstenburg (1971) claimed crime concern – a general worry about crime is distinct from crime risk – the assessment of individual safety. Fear of crime relating to specific housing designs might be usefully investigated by adopting actual and hypothetical questions, but not as part of the same question. Instead, both types of question could be presented separately, quantitatively and qualitatively.

It is also argued, that it is the fear of strangers that is being measured instead of fear of crime (Garofalo and Laub, 1978). Lupton (1999) studied fear of crime in Australia and concluded "in this research, as in other studies, participants continually identified the figure of the 'unpredictable stranger' as the locus of their fear" (Lupton, p13). The idea of 'otherness', is necessary to help maintain and perpetuate symbolic boundaries and cultural identities. The fear of crime related to housing design might well require consideration of the notion of 'otherness' in terms of both dominant housing experience and assumptions and can be facilitated by probing the perceived social status of the residents who are assumed to live there.

Furthermore, what is anticipated to be fearful and explained to an interviewer outside the physical setting, may well be dramatically different to the actual fear experienced within the very fabric of that setting. However, as Chapter 7 argues, it is generally accepted that the photographic image can provide a meaningful representation of the actual setting and that such an approach can be usefully employed.

Hale (1996) refers to comments made by Ferraro and La Grange (1987) with regard to previous research; "...even a casual review of the literature indicates that the phrase 'fear of crime' has so many divergent meanings that its current

utility is negligible" (quoted in Hale, p91). To attempt to clarify the situation Fattah and Sacco (1989) identify three broad categories of measures with which to explore fear of crime. Firstly, cognitive measures concern the perceived probability of victimisation. Secondly, affective measures refer to worry or fear of victimisation by specific offences. Finally, behavioural measures gauge fear levels via the actions of people. In the last instance, Fattah and Sacco also note that what people say they experience, may be contrary to what they actually do experience. To distinguish between risk and fear the following (Table 6.1) is adapted from Ferraro and La Grange (1987).

Table 6.1 Classification of Crime Perceptions

Level of reference	Cognitive judgements	Values	Affective Emotions
General	**A**. Risk to others; assess crime or safety	**B**. Concern about crime to others	**C**. Fear for others' victimisation
Personal	**D**. Risk to self; safety of self	**E**. Concern about crime to self; personal intolerance	**F**. Fear for self victimisation

Source: From Ferraro and La Grange (1987) in Hale (1996, p91).

The cognitive dimension concerns judgements of risk and safety, while the affective framework includes fear reactions. Category A measures risk at its most general level and is therefore inappropriate in this study, while category F is the closest to representing fear of crime by referring to every day experiences to feelings of fear. They also locate questions that have been used in previous research within the taxonomy above, as shown in Table 6.2.

Table 6.2 Examples of Crime Perceptions

1, Do you think that people in this neighbourhood are safe inside their homes at night?
2. Choose the single most serious domestic problem that you would like to see the government do something about.
3. Do you worry a great deal about the safety of your loved ones from crime and criminals?
4. How safe do you feel or would you feel being out alone in your neighbourhood at night?
5. Are you personally concerned about becoming a victim of crime?
6. How afraid are you of becoming a victim of (sixteen separate offences) in your everyday life?

Source: From Ferraro and La Grange (1987) in Hale (1996, p93).

Although some recent research has directly contributed to the development and understanding of this concept, Hale (1996) claims "there is a need to widen the methodological approaches to the study of fear of crime by, for example, incorporating more qualitative work" (Hale, p92).

Indeed, many of the comments mentioned above, concerning measuring and defining the notion of fear of crime, are pertinent to the task at hand and have certainly informed the research. Particular attention was therefore applied to the phrasing of the questions, to avoid misleading or misrepresenting respondents, and both quantitative and qualitative approaches were utilised.

6.4 Explaining Fear of Crime

Having stated the need to be circumspect with regard to the problems associated with both the definition and the measurement of the fear of crime, an inquiry into the variety of models used to explain fear of crime, is necessary. Although on first reading such information may seem to have only a tentative relevance to a study of the built environment, an understanding of this area has served to illuminate and strengthen the selection and operationalisation of the housing sample. In addition, as part of the literature review, an inquiry into explanations of fear serve to highlight the fact that the focus of research in this area, has meant that research into fear of crime in specific residential housing designs in Britain has been largely neglected.

6.5.Vulnerability Variables

Studies of fear of crime have demonstrated that certain social groups are more vulnerable to the fear of crime than others. Commonly agreed 'vulnerable' groups are women, the elderly, ethnic minorities and the poor. Knowledge and understanding of these vulnerability patterns are vital, both to inform the sample selection and to appreciate the subjective nature of fear of crime.

6.5.1 Gender

A plethora of research has concentrated upon vulnerability in terms of gender. Many of these studies have sought to discover why women repeatedly express greater fear than men, particularly when according to published crime statistics and victimisation surveys, they are less likely to be victimised. Feminist researchers however, provide an alternative perspective and inquire into the irrationality of the relatively low level of fear found amongst men; particularly in consideration of their higher levels of victimisation. Hale (1996) notes that this paradox has been explained in two ways. Firstly, official statistics and victim surveys fail to measure the full extent of women's victimisation, thereby creating a false paradox. The second explanation makes the distinction between perceived risk and fear, and claims that heightened perceptions of vulnerability in women is the explanation for the contradiction. Hale (1996) however, suggests that aspects of both explanations are probably pertinent, whereby the victimisation of women is statistically underestimated and their fear of crime is socially over-constructed. On a more general note, Hale claims "gender differences in perceptions of vulnerability may be linked to psychological, attitudinal and personal characteristics as well as physical factors" (Hale, p99).

Walklate (1997) is critical of what she terms 'gender blindness' in criminological approaches to the concept of risk. She claims that the 'Enlightenment' in Europe has created a singularly masculinistic interpretation of what is meant by risk behaviour suggesting "that men and women will experience quite different messages about their relationship to and experience of criminal victimisation" (Walklate, p39). She makes an important point with regard to the reluctance of criminology to consider gender "in the context of the 'fear of crime' debate ... this reluctance has not only impacted on the way in which much criminological work hides men's fears (and their thrills) but the way in which this also simultaneously consigns women to possessing 'legitimate' fears" (Walklate, p40). The irrationality of men's low level of fears is supported and Walklate calls for a "reconceptualisation of the concept of risk" since "there has been no real explication of risk as a gendered concept subjectively experienced" (Walklate, p44). In consideration of the importance of selecting a representative sampling frame, it is interesting to note the comments of Goodey (1997). She claims

"hegemonic masculinity teaches boys to be careful about expressing feelings of vulnerability (i.e. to whom and when; that is, if they feel able to or indeed are aware of such feelings in the first place)" (Goodey, p403). She studied fear in 11-16 year olds and the results revealed that 72% of girls and 46% of boys were worried when in public places. These findings concur with those of the British Crime Survey (Mirrlees-Black *et al.*, 1998), the Islington Crime Survey (Kinsey, 1984) and the Edinburgh Crime Survey (Anderson *et al.*, 1990). More specifically, Smith (1987) notes that the 1984 British Crime Survey indicated that approximately ten per cent more women than men in all age groups were afraid of their homes being broken into and burgled. More recently, however, Koskela and Pain (2000) have argued that measuring and locating women's fear of crime may be significantly more complex and problematic than is presently understood.

6.5.2 Age

As far as age is concerned, according to Hale (1996), the general consensus of research in this area is that people become more fearful as they get older. However, some studies have shown only a weak relationship and others have revealed that the relationship is negligible or dependent on other factors, such as low incomes, living alone and health. The elderly have also been found to be less fearful in some circumstances. Hale, however, suggests that the measurement procedures used may explain such variation and in particular, global measures probably systematically over-estimate levels of fear.

Smith (1987) notes the findings of the British Crime Survey, which indicates that on a national level, "fear of crime becomes increasingly widespread amongst the over-45's and it intensifies sharply past the age of 60" (Smith, p6). Perhaps more interesting are the findings of Kinsey (1984) in the Merseyside Crime Survey. Following Kinsey, Smith (1987) claims "fear of property crime is by far the most widespread, and fully seventy-per cent of those over fifty (compared with two thirds of those under thirty) express anxiety about the safety of their home" (Smith, p6). Again, extensive research has attempted to explain why this might be (Stafford and Galle, 1984; Warr, 1984; Kennedy and Silverman, 1985; Normoyle and Lavrakas, 1984). However, the detailed intricacies of this area are not pertinent to this discussion.

6.5.3 Social Class and Socio-Economic Status

Social class and socio-economic factors have also been implicated in explanations for the fear of crime. Smith (1987) has studied Birmingham previously (Smith, 1983) and claims to have found "the best predictors of fear of crime are essentially economic" (Smith; 1987, p8). Research in America (Miethe and Lee, 1984) found fear of property crime to be inversely related to income. Smith (1987), however is cautious and points out that "the findings of these studies are diverse, the social correlates of fear are hard to disentangle, and variations *within* fearful groups can be marked" (Smith, p8).

6.5.4 Ethnicity

Smith (1987) also notes that ethnicity may also be a consideration in the distribution of fear of crime, claiming that "fear varies between racial groups in the USA (a persistent finding in National Crime Surveys) and in Britain (Smith and Gray, 1985)" (Smith, p8). On a more general note, Hale (1996) claims research has shown that "ethnic minorities, the poor and the less well educated tend to be more fearful than the affluent, whites and the better educated" (Hale, p103). For example, ethnic minorities are subject to the added threat, or perceived threat, of racist attack at the institutional and individual level. Finally, in terms of research concerning victims of 'fear of crime', it has also been found that the number of people within a household can have implications on fear levels (Braungart *et al.*, 1979; Allatt, 1984). Allatt claims this can reflect availability or assurance of defence. Solitary adults caring for children may have more fear of crime and this has obvious implications on difficult to let estates, by reference to the concentration of this segment of the population in such areas.

6.5.5 Crime Experience

One other approach concerns attempts to relate fear to people's experience of crime, be it of a direct or indirect nature. Hale (1996) claims that the evidence supporting a direct relationship between victimisation and fear is mixed. Victimisation may encourage wariness or caution but the impact of fear is questionable. For Hale victims generally "do not appear to be significantly more fearful than non-victims" (Hale, p112). Rountree (1998) concurs and claims "previous studies of fear have yet to clarify the crime-fear relationship" (Rountree,

p342). She looks specifically at violent crime and burglary and concludes that fear of crime is a multi-dimensional concept that may be crime-specific. According to Rountree "the effects of covariates such as age, gender, perceived risk, perceived seriousness (of offence in question), and community disorder have been shown to influence distinct crime-specific fears differentially" (Rountree, p346). In conclusion, she claims "it is an oversimplification to suggest that crime either does or does not affect fear""(Rountree, p367).

6.5.6 Media Representations

The impact of the media on fear has also been researched and has produced similarly conflicting results. Media sensationalism and the exaggerations of gossipers are frequently not presented from a neutral standpoint, but they can be implicated in the process of turning information about crime into fear of crime. Indeed, Smith (1987) claims such sensationalism "must be implicated in Smith and Gray's (1985) discovery that fear is twice as widespread amongst white Londoners living in areas of 'high ethnic concentration' as amongst those in 'low ethnic concentration' neighbourhoods" (Smith, p10). Chiricos *et al.,* (1997) claim "the frequency of watching television news and listening to the news on the radio is significantly related to fear" (Chiricos *et al.,* p342). However, they also found that white women have higher levels of fear of crime than expected; "seeing people like themselves victimised frequently in TV news may have substantially contributed to the fear of crime among white women" (Chiricos *et al.*, p354). This point might also imply that images of certain residential dwelling types shown on television could possibly influence people's fear of crime in relation to those areas or those dwelling types.

Hale (1996) comes to the conclusion that knowing someone who has been victimised, particularly on a localised basis, or learning of victimisation in the neighbourhood from local media or gossip seems to have more immediate impact than personal victimisation or knowledge of victimisation, which is less local. For Hale, knowledge of local victims who appear similar and live in comparable neighbourhoods is likely to enhance levels of fear. Local news and press may be implicated at this level as well. More recently, Lupton (1999) found that "the mass media played an important role in the development of people's notions of 'safe'

and 'unsafe' places in their local area" (Lupton, p8). However, effectively measuring this dimension may prove somewhat problematic, although this area may nonetheless represent an interesting avenue for further research.

6.5.7 Fear of Crime and the Police

Accordng to Bahn (1974), 'symbolic reassurance' may mean that the mere presence of police serves to reduce fear. Winkel (1986) supports this view, arguing that such a presence gives people the idea that criminality is predictable and controllable thereby psychologically reducing fear. Williams and Pate (1987) provide further empirical support. They found that "all the measures which reduce fear were ones which gave the police a higher physical presence" (Hale, 1996, p128). Confidence in the police was a significant factor in reducing fear in an analysis of data from the 1984 BCS (Box *et al.*, 1988).

Hale (1996) urges caution, in that extra policing may increase fear levels for some groups. There has been research suggesting that fear of crime and fear of the police are related (Block, 1971; Heinzelmann, 1981; Smith 1986). Furthermore, Jones *et al.*, (1986) support this in the British context. They discovered that in racially-mixed inner city areas, those community groups with the lowest regard for the police had the most extensive levels of fear. A recent focus upon 'problem oriented policing' in the U.S.A. concluded that it "seems to fit well with the arguments which suggest that fear of crime is not simply to do with crime levels but is also affected by the physical and social conditions in the local environment" (Hale, p130).

6.5.8 Fear of the Stranger and 'Otherness'

More pertinent to the proposed research is the notion of the stranger and 'otherness'. Studies have been conducted which enquire into the relationship between fear of crime and strangers (Hindelang *et al.*, 1978; Merry, 1981; Lupton, 1999). Safety in the community has been commonly associated with being 'quiet', combined with notions of affluence and a lack of undesirable types. The creation of 'otherness' and the notions of the 'stranger' are required to define ourselves against and can become "the repositories of projected fears and anxieties" (Lupton, p13). The potentially crucial influence 'stranger danger' can be

investigated by probing the socio-economic associations related to each housing design typology. Lupton (1999) concludes that "there is an inextricable link ... between notions of the 'danger' of space and place and understandings about the types of people who inhabit such places" (Lupton, p13).

6.5.9 The Effects of Fear of Crime

Less germane, at least with regard to this research, are the investigations carried out regarding both the effects of fear of crime, and the management of these fears. Both have been subject to much scrutiny. It is argued that the value of discussing such work is limited with regard to understanding the criminogenic capacity of specific housing designs.

6.6 Towards a Geography of 'Fear of Crime'.

The multifarious nature of research into investigating 'who' is fearful of crime is particularly useful in the understanding, subsequent development and the refinement of the sample frame. It serves to inform the selection of potential respondents (i.e. men aged 18 or over), and assists in weighting any subsequent findings in an attempt to disentangle the multi-dimensional nature of fear of crime. However, as Smith (1987) notes; "such research indicates that there must come a point when it is more fruitful to consider where the fearful live than to establish who they are" (Smith, p8). Although this locates fear in a wider geographical context, and continues to effectively investigate the collective 'who', it is arguably a positive development.

6.6.1 Fear of Crime at the Neighbourhood/Community Level

The neighbourhood or community context has been used to understand individuals' fear of crime. (DuBow and Emmons, 1981; Hope, 1986; McPherson, 1975). Indeed, Smith (1987) notes that in the USA, Skogan and Maxfield (1981) and in Britain, the BCS draws attention to the disproportionately high levels of fear found in the inner cities (Maxfield, 1984) in the most deprived council estates, and in 'multiracial' areas (Hough and Mayhew, 1985). At the neighbourhood level, Rohe and Burby (1988) studied fear of crime in public housing and found image to be important; "public housing has developed a reputation of being crime-ridden"

(Rohe and Burby, p701). This reputation may create fear in itself. Pertinent to the previous discussion on housing (see Chapter 5.), Rohe and Burby (1988) comment; "the eligibility requirements for public housing virtually ensure that the residents will have low incomes and that there will be high rates of unemployment and many single-parent households" (Rohe and Burby, pp701-702).

Local studies in Britain have found "that the poorest and most deprived urban neighbourhoods harbour most fear" and within such neighbourhoods there is a "tendency for the least privileged ... to be most anxious"(Smith, 1987, p9). She contends that this anxiety is not a characteristic of the individual groups within the neighbourhood, rather it is a characteristic of the neighbourhood itself.

Hale (1996) also notes "There is ...ample empirical evidence to suggest that residents of the inner neighbourhoods of larger cities are likely to be more afraid of crime than people who live in the suburbs, smaller towns or rural areas" (Hale, p113). Various studies demonstrate these findings (Belyea and Zingraff, 1988; Conklin, 1971; Fischer, 1981; and Shaplan and Vagg, 1985). It is always prudent to be circumspect, since geographical variations in fear of crime, can, to a certain extent, be accounted for by areal variability in crime rates (Smith, 1987). Community size has also been found to be related to fear of crime (Clemente and Kleiman, 1976; Lebowitz, 1975).

Smith (1987) claims "it is probably from this small-area perspective that most progress will be achieved in the immediate future" (Smith, p9). This study echoes these comments and seeks, uniquely, to analyse fear of crime at the design-specific level.

6.6.2 Fear and the Physical Environment

The relationship between the environment and perceptions of fear largely concentrate on notions of community, social support and local neighbourhood social networks. There has been some research, however, on fear of crime and the physical environment. The most well known of this research is perhaps the work of Newman (1973), which is discussed in Chapters 2 and 3. Wilson and Kelling (1982) and Coleman (1985) posit that environmental management, such

as the rapid clean up of graffiti and litter, and repair and maintenance at the estate level, can reduce fear (see also Rock, 1988).

Vrij and Winkel (1991) found that poor street lighting can encourage fear, as did the studies carried out by Painter (1988; 1996). However, a study carried out by Nair *et al.,* (1993) in the Castlemilk Estate in Glasgow, which attempted to assess the effectiveness of environmental improvements to reducing levels of fear, found no such relationship. Better lighting, path widening and shrub removal "failed to produce a significant increase in local feelings of safety" (Nair *et al.*, p560). They also note that five research studies organised by the British Parliamentary Lighting Group and the Home Office's Wandsworth study, all in the early 1990's, produced 'mixed results'.

Hale (1996) observes that the utility of lighting studies has often been confused by the simultaneous inclusion of other measures such as increased police presence in the areas under investigation. With regard to improved lighting specifically, Nair *et al.,* (1993), make the interesting observation that such improvements may merely "turn a poorly lit bad area into a well lit bad area" (Nair *et al.*, p560), where people feel less safe because they are more visible. More generally, the authors argue that environmental improvements may, to some degree, have adverse affects on fear levels; "domestic target-hardening – might worsen the problem, underlying dangers and undermining feelings of safety" (Nair *et al.,* p560).

Nasar (1982) claims that much of the work that has found a relationship between the visual characteristics of the built environment and human response has neglected to deal with the perception of crime (Wohlwill, 1976; Berlyne, 1974). His study showed slides of residential sites to respondents, to rate visual attributes to predict fear of crime. One general conclusion was that dilapidation reduction has a positive effect on fear of crime and this is supported by other research (Peterson, 1967; Nasar, 1979). Nasar (1982) does note, however, that previous experience of dilapidated areas may create such negative associations. He also observes that "people are diverse in terms of such factors as class, ethnicity, sex, race and environmental experience" but claims "there are some universal principles

underlying evaluation which most people share" (Nasar, p248). Indeed, it is perhaps this element that requires further focus and investigation.

In conclusion, Nasar argues "...this research suggests that the manipulation of specified visual attributes of the building exterior can improve people's perception of that environment in terms of safety from crime" (Nasar, p253). Conversely, Taylor *et al.,* (1985) found fear of crime was not linked to physical decay. "...the links between physical environment and fear, and between physical environment and confidence, were largely explained away by socio-economic factors" (Taylor *et al.*, p273).

Vrij and Winkel (1991) investigate unsafe locations and make the point that places that are perceived to be unsafe, may not have received attention and asks whether such places are criminal; "...many places perceived as unsafe were never examined because in reality they are not unsafe" (Vrij and Winkel, p204). They also draw attention to the theories of Newman (1973) and Jacobs (1961), claiming neither made any clear distinction between crime and fear of crime.

'Signs of incivility' theory (Lewis and Salem, 1986; Skogan and Maxfield, 1980) and Wilson and Kelling's 'Broken Windows' theory (1982), implicates dilapidation (graffiti, rubbish, vacant properties and abandoned cars) and therefore advocates 'face lifts' and ongoing maintenance for these locations. Kraut (1999) has recently underpinned these ideas in a study of vacant properties.

Finally, research, largely carried out by women (De Savornin Lohman *et al.,* 1986), identifies that the ability to control a situation is linked to fear. Responses therefore involve the 'designing out' of obstructions and architectural features that encourage 'unavoidable' action (e.g. underpasses and overhead walkways).

Vrij and Winkel (1991) claim that these different approaches "do not agree on which locations are unsafe" and therefore "there is also a difference of opinion about relevant solutions" (Vrij and Winkel, p205). In McGahan's (1984) study of police officers, he observes that "the city is perceived by the police partially as a mozaic of 'trouble areas'" (McGahan, p118) which may considerably influence

investigatory activities and responses. This observation seems particularly pertinent with regard to the siting of CPTED initiatives and the allocation of police and housing resources. In their study Vrij and Winkel (1991), asked 854 respondents to identify unsafe locations on a city map and these were then assessed for certain characteristics by police officers. The findings are summarised in Table 6.3.

Table 6.3 Thirteen Most Frequently Mentioned Unsafe Sites

	Quiet/ deserted	Poor lighting	Poor overview	Compelling (unavoidable)	Criminal	Signs of incivility	Block of flats
1. Connecting road	Yes	Somewhat	No	Yes	No	No	No
2. Recreation site	Yes	Somewhat	Yes	No	No	No	No
3. Connecting road	Yes	Somewhat	Somewhat	Yes	No	No	No
4. Campsite	Yes	Somewhat	Yes	No	No	No	No
5. Sportsfields	Yes	Yes	Yes	Yes	No	No	No
6. Connecting road	Yes	Somewhat	No	Yes	No	No	No
7. Connecting road	Yes	Yes	Somewhat	Yes	No	No	No
8. Centre of Town	No	No	No	No	Yes	No	No
9. Cycle way	Yes	Somewhat	Somewhat	Yes	No	No	No
10. Park	Yes	Yes	Somewhat	No	No	No	No
11. Railway station	No	No	Somewhat	Yes	Yes	No	No
12. Connecting road	Yes	Yes	Yes	Yes	No	No	No
13. Campsite	Yes	Yes	Somewhat	No	No	No	No

Source: Vrij and Winkel, 1991, p209.

From the findings, they observe that "...it is remarkable that only two of the thirteen locations are actually criminal" (Vrij and Winkel, p208). It is also interesting to note that neither of these locations (the city centre and the railway station) are quiet and deserted. A second thrust to the study investigated improvements to lighting and found this to be positively related to reducing fear of crime. In conclusion, they claim that although crime does have a role in the perception of unsafe locations, it is "certainly not the most important one" (Vrij and Winkel, 1991, p214). Furthermore, in support of arguments against the utility of

recorded crime statistics detailed in Chapter 4, Vrij and Winkel (1991) claim that "research that defines unsafe locations primarily on the basis of crime statistics is therefore incomplete" (Vrij and Winkel, p214).

Perhaps demonstrating some of the merits of investigating fear of crime, Normoyle and Foley (1988), provide an interesting analysis of fear of crime held by elderly residents of high-rise dwellings. In a survey of over eight thousand people they found, contrary to Newman's assertions, that "elderly residents of high-rise dwellings reported less anxiety about crime than did tenants of walk-ups or row houses" (Normoyle and Foley, p64).

In addition, segregation from public housing containing younger families actually increased fear of crime. This again contradicts Newman's findings. The point here, perhaps, is that preconceptions and prejudices relating to residential housing types and neighbourhoods can be challenged when investigating fear of crime.

6.7 Summary

This chapter provides a critical literature review of the topic fear of crime, which has been particularly useful for the selection and justification of the sample frame. More crucially perhaps, this review has assisted in facilitating the development of an appropriate research instrument to more effectively measure fear of crime at the design-specific level.

Various conclusions might be drawn from the discussion above; one of which is that the research tool must be explicit with regard to type of crime. Chapter 5 argues that burglary and street crime/deviancy occurring in the immediate surroundings of the dwelling, represent such a focus and indeed, with regard to the fear of crime, it would appear that this focus can be fully justified. Borooah and Carcach (1997) draw upon the work of Skogan and Maxfield (1981), the British Crime Survey, (Mayhew *et al.*, 1994) and Hough (1995), and claim that burglary is "typically identified as the crime that causes most anxiety" (Borooah and Carcach, p636). Furthermore, in a study of the Scotswood Estate in the North East of England, Allatt (1984) found that "burglary dominated the perception of crime"

(Allatt, p173). Drawing on the work of Maxfield (1984) he claims "evidence from the British Crime Survey suggests that fear of burglary is less subject to variation by age, sex and social isolation than is fear of street crime" (Allatt, p178). The perceptions of street crime and deviancy also warrant investigation, and in particular, the perceived presence of noisy and troublesome teenagers and graffiti, vandalism and dereliction. This is seen to be a crucial component in the 'image' of the designs, and is discussed more extensively in Chapter 7.

Fear of burglary in relation to particular residential housing designs promises interesting data concerning Newman's concepts of 'territoriality', 'surveillance' and 'image and milieu', in addition to socio-economic associations regarding the common housing designs selected (as discussed in Chapter 5). Investigating the perceptions of citizens, 'professionals' (police officers and planning professionals) and convicted burglars represents a novel and interesting approach to gathering unique and crucial insights.

Demographic (age and gender) and socio-economic data (income, housing tenure and education), along with various other variables discussed above, must be accounted for. This approach therefore investigates 'where' fear of crime is emanating 'from', rather than 'who' is fearful. Newman's concepts of 'territoriality', 'surveillance' and 'image and milieu' are also probed, along with the fear of crime and socio-economic associations relating to these housing designs.

In a more recent publication (Newman, 1996), Newman has concluded that it is necessary to have a minimum of forty per cent owner-occupancy and a predominance of single family units to replicate his mini-neighbourhood schemes. Limitations must also be placed upon the number of low-income renters and multi-family dwellings so as to avoid 'destabilising' the middle income community. Analysis of fear of crime at the design-specific level therefore requires a consideration of such perceptions, particularly with regard to the 'image' of the area.

In the final analysis, it is argued that fear of crime offers a more cogent tool for measuring attitudes and perceptions of the built environment. It is contended that

it is not the buildings per se, that influence criminality, rather the associations made about them. Taylor *et al.*, (1985) claim "the position of a neighbourhood in the larger metropolitan status hierarchy determines what kind of people live there and the kind of physical environment they live in" (Taylor *et al.*, p273). Indeed, a comment made by Rainwater (1966) concerning the condition of the lower-class in the 1960's, arguably has some relevance today "the physical and social disorder of their world presents a constant temptation to give up or retaliate in kind" (Rainwater, p93).

It may well be the case that the images and reputations of certain housing types and neighbourhoods are engendering fear that may be unfounded to the detriment of genuine fears. Brantingham and Brantingham (1977) studied crime and fear of crime 'mental maps' and found mismatches to be common. They observe that crucially "misconceptions of 'danger areas' may lead victims into behavioural patterns which increase victimisation risk" (Brantingham and Brantingham, p260). Police responses will likewise be affected by their own perceptions (McGahan, 1984). An investigation into the fear of crime at the design-specific level therefore provides an interesting approach for arbiters of the law, planners and housing authorities to consider.

The following chapter discusses the role of environmental psychology, and investigates the crucial importance of 'perceptions' to 'defensible space' and in analysing and understanding the criminogenic capacity of residential housing designs in Britain. Such an approach is necessary, primarily because 'fear of crime' is a perceptive operational concept, and secondly, one of the research aims is to probe this perceptual element of 'defensible space'. It is further argued that such an approach contributes significantly to the development and refinement of the research instrument.

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Chapter 7

Perceiving the Built Environment: The Role of Environmental Psychology

7.1 Introduction and Philosophy

Chapter 6 has reviewed the literature on the subject of the fear of crime and found that research directly focusing upon the criminogenic capacity of the built environment is lacking, particularly with regard to characteristic British housing designs. This research seeks to investigate perceptions of 'defensible space', crime/deviancy and the fear of crime in relation to these residential housing types. It is essential, therefore, to have a clear operational understanding of the processes that determine how people perceive and understand objects, and in particular, the component parts of the urban environment. This chapter briefly outlines a variety of considerations from the discipline of environmental psychology, which, it is argued, are pertinent to the general thrust of this thesis, and more specifically, to the development and operation of the research instrument.

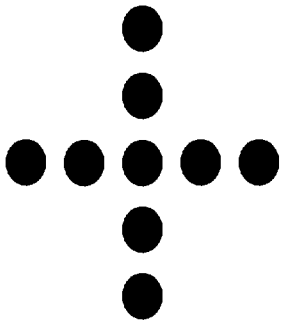
7.2 Understanding Perception

Humans have five senses, namely sight, hearing, touch, taste and smell, and all would arguably contribute collectively towards the totality of an individual's monitoring of the environment. The notion of perception is recognised as a highly complex issue. Greene and Hicks (1984) define it as "...the process by which the information from our senses is perceived by us" (Greene and Hicks, p1). In terms of the research methodology proposed, it is appropriate to concentrate upon the sense of 'sight', as visual representations of residential dwelling types would not constitute any meaningful consideration for any other sense. Moreover, Ackerman (1996) claims seventy per-cent of the body's sense receptors are located in the eyes and "...it is mainly through seeing the world that we appraise and understand it" (Ackerman, p230). Indeed, as Sperling and Gill observe "...the eye 'receives' while the mind 'perceives'" (Sperling and Gill, 1972, p36). It is noted, however, that in the real world the urban place is infinitely more heterogeneous than a mere visual entity. Further discussion and justification for the research methodology is located in Chapter 8.

The Gestalt concept of perception focuses predominantly upon the image and claims humans are prone to organise stimuli along certain natural tendencies, possibly related to a grouping function in the brain. It is argued that these may be based upon 'learned experiences' and include the concepts of 'similarity', 'proximity', 'continuity' and 'closure'.

Items of the same size, shape or quality are more likely to be seen as a group rather than as separate elements. For example, flying over a large city people tend to notice the clusters of similar houses. This may have relevance in terms of the cognitive mapping of housing types or neighbourhoods. In terms of Figure 7.1 below, those observing it tend to see the dots as two straight lines rather than several dots or even four lines around a central focus. This element may have limited application in considering the perception of residential blocks, estates, and neighbourhoods, but it is nevertheless significant.

Figure 7.1 The Effect of Proximity on Perception



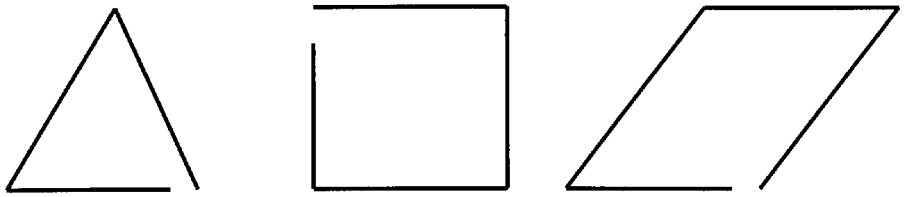
Source: From Sperling and Gill (1972, p39).

Different component parts of a geographically-defined neighbourhood may be interpreted on a general level, in terms of the wider neighbourhood. Inter-areal dissimilarities may, therefore, possibly be ignored. Alternatively, a predominance of positive or negative images may result in the generalisation of those images for the totality of the defined neighbourhood.

The factor of continuity illustrates the natural opposition to sever the continuous flow of a line, pattern or design in our perceptual awareness, as demonstrated in

Figure 7.2. The inclination to see unified wholes encourages a mental closure of the objects. This may have relevance in the way citizens perceive a neighbourhood. Vacant or open spaces could be cognitively mapped as part of that area, and socio-economic and demographic associations may well be subject to generalisations based upon theses cognitive maps. However, this notion remains largely conjecture at this point.

Figure 7.2 The Effect of Continuity on Perception



Source: From Sperling and Gill (1972. P39).

The background or setting of the stimulus is also important since objects are not naturally seen in isolation. Fluctuations of perception occur where the figure-ground relationship is not definitive. This can be visualised in the classic goblet-faces image in Figure 7.3.

Figure 7.3 Fluctuations in Perception

Source: From Sperling and Gill (1972, p41).

The variation in foreground-background perception may suggest that people focus upon different elements of the urban place when perceiving it directly and, in

addition, when they are requested to view photographic representations of such scenes.

7.3 The Psychology of 'Liking'

The psychology of interpersonal attraction and the determinants of liking can provide an interesting area of consideration that might be utilised to assist in the understanding, definition and measurement of the fear of crime in the built environment. Similar processes may be operationalised in the psychology of personal attraction as exist in the evaluation of the nature of the built environment. Although the reasons for the liking or non-liking of a person or a place may well differ, the process is arguably broadly similar. Atkinson *et al.* (1990) claim four determinants exist; physical attractiveness, proximity, familiarity and similarity.

Physical attractiveness has been shown to influence the degree of liking. In the field of behavioural psychology, studies have demonstrated that 'attractive' children were believed by respondents to be less likely than 'unattractive' children to commit an aggressive act (Dion, 1972). This determinant has obvious application to understanding perceptions of the built environment. A clean and well-managed residential area is likely to be perceived more positively than a vandalised area decorated with graffiti and exhibiting few obvious signs of estate management (Wilson and Kelling, 1982). Moreover, "beautiful people are not only thought to have more beautiful personalities, but there is some evidence that they actually do – in part because we treat them more beautifully and they react accordingly" (Atkinson *et al*, 1990, p711). Perhaps there is an analogy to be drawn here. 'Beautiful' residential housing (one might infer 'affluent') is subject to management practices that maintain and enhance their 'safe', desirable image. The 'white collar' crime which may be found there is not subject to the same exposure, scrutiny and media attention that 'working class' crime is, and as such the self-fulfilling prophecy is created and maintained. Indeed, Chapter 2 and 3 suggest that dilapidation and poor estate management may well significantly influence perceptions of risk and crime.

People also tend to know and befriend larger numbers of those in close proximity to them, increasing familiarity and liking. Finally, the determinant of similarity is also important. Evidence reveals that 99% of married couples in America marry within their own race (Atkinson *et al.*, p715). The perception of the built environment may involve some ill-defined concept of similarity in that environments not dissimilar to those routinely experienced by the respondents, may well be looked upon in a more positive manner than would otherwise have been the case. Furthermore, positive notions are less likely to engender perceptions of the fear of crime. Exposure to, familiarity with, and proximity to varying types of residential environments might also influence subsequent perceptions of the built environment.

7.4 Psychology and Experience

Architecture in Western culture, and especially in Britain, is predominantly angular and based upon straight lines and corners. The sample groups are therefore drawn from this culture, rather than from a culture that arranges space and architecture around predominantly circular and rounded forms. Indeed, visual tests in the field of behavioural psychology that were applied to Zulus in Africa, revealed results that were inconsistent with, and often contradictory to, the same tests on Western respondents. This point perhaps illustrates how learned experiences that have helped mould culture can directly affect perception (e.g. Zulus do not plough or design their dwellings on a linear basis).

The influence of experience is arguably a central consideration. "No one of us can look at an object, hear a voice or taste food and receive these sensations without projecting into them some facet of past experience" (Sperling and Gill, 1972, p36). Kant made broadly similar observations some two centuries earlier "we see things not as they are but as we are" (quoted in Sperling and Gill, p36). Indeed, for the task at hand, the influence of experience is extremely pertinent.

For Sperling and Gill (1972), "the way in which we perceive any present situation is inevitably related to some previous sensory experience" (Sperling and Gill, p43). Habit reactions occur if this experience is a frequent eventuality. The popular

expression 'man [*humans*] are the victims of habit' has some scientific foundation relating to perceptual responses. Indeed, they claim "it is probable that ninety per cent of our daily experiences are perceived in an habitual manner based on repeated previous experiences" (Sperling and Gill, p43).

7.5 Psychological Cues and Symbols

In reacting to cues and symbols "we have trained ourselves to jump to conclusions from partial and familiar stimuli where common sensory perceptions are concerned" (Sperling and Gill, p43). Errors in perception can often be committed since humans often depend on past experience and habit rather than critical observations. If this is correct, consideration of previous residence, and whether the experience was positive or negative, represents a prudent and worthwhile exercise in relation to the sample group.

Perception, as the result of action and reaction, is also influenced by emotion. Excited witnesses in court are often unreliable and by law a husband / wife cannot testify against each other. Similarly, enthusiasm can effect visual perception (i.e in a tennis match – is the ball in or out?). More generally, Sperling and Gill (1972) comment that what individuals perceive "...will depend not only on the nature of the actual stimulus, but also on the background or setting in which it exists – our own previous sensory experiences, our feelings of the moment, our general prejudices, desires, attitudes and goals" (Sperling and Gill, p37). Emotions may at first appear a minor consideration. However, powerful positive or negative images and memories of the past may well include associations with certain urban design features and subsequently influence perceptions of those environments which are similar and/or dissimilar.

Gregory (1977) makes the point that objects have pasts which can be utilised to approximate their present and future "but the senses do not give us a picture of the world directly; rather they provide evidence for the checking of hypotheses about what lies before us" (Gregory, p13). It is the 'associationist' approach and later, cognitive psychology that places more importance upon the learning and experience aspect rather than focusing upon the image as Gestalt theorists have

advocated. However, Bruce and Green (1990) note that "a unifying principle in the psychology of the visual perception has been that unless the perceiver makes assumptions about the physical world which gave rise to a particular retinal image, perception just isn't possible" (Bruce and Green, p78). The dispute concerns how specific these assumptions need to be. It is possible that these assumptions create fear of crime in one area, while nurturing a carefree notion of safety and well-being in another. Published recorded crime statistics are therefore incongruous to this crucial component within the design-affects-crime debate.

Tuan (1977) concentrated upon the perspective of experience and argues that "what begins as undifferentiated space becomes place as we get to know it better and endow it with value" (Tuan, p6). It appears, therefore, that in the same way that the fear of crime has not been investigated in relation to characteristic British housing, little research has been conducted concerning peoples' attitudes to space and place, in relation to the fear of crime, the perceptions of 'defensible space' and crime/deviancy. Tuan (1977) claims there are relatively few works which attempt "to understand how people feel about space and place ... and interpret space and places as images of complex – often ambivalent feelings" (Tuan, p7).

7.6 Environmental and Landscape Preference

This hiatus has arguably been engaged with, to some extent, by the recent emergence within environmental psychology, of environmental or landscape preference. It must be noted however, that a literature review in this area indicates that the fear of crime has *not* been investigated in relation to specific residential dwelling types in Britain.

The investigation of environmental preferences has represented a major focus of research in environmental psychology over the last thirty years (Hubbard, 1996). The area is not the exclusive concern of environmental psychologists, with geography, architecture and planning also demonstrating a keen interest. However, the "healthy methodological diversity" (Hubbard, p75) has also produced a legacy of discourse. Consequently "...very little is known with any surety about people's attitudes to environments, whether natural or man-made" (Hubbard, p75).

The contribution that might be provided by this avenue of inquiry is summarised succinctly by Taylor (1991). He claims economists, criminologists and geographers "...are often concerned with larger scale, areal-level dynamics" while, "...environmental psychologists have a more fine-grained concern with individuals and small groups" (Taylor, p952).

Hanyu (1997) provides a useful summary of the main perspectives. Collative-arousal models argue that intermediate levels of arousal are preferred in design. These include moderate complexity, incongruity, novelty and surprisingness (Berlyne, 1971). Ecological theories based upon the learning experiences, claim preferences are based upon the presence or absence of open views (prospect) and protection from potential danger from 'outside' (refuge) (Appleton, 1975). Places that make sense architecturally (Kaplan and Kaplan, 1982) are also placed within this theoretical strand. Schema models are based on the idea that prototypical objects and settings that are preferred (Whitfield, 1983). Symbolic and categorical models make various divisions based upon shape, complexity and colour. Naturalness, land-use forms (e.g. residential versus commercial), traditional-modern designs, and the presence of vegetation and water are some examples of this category. Finally, Hanyu (1997) identifies lighting and condition models. This has been shown to affect preference within the building, although research remains inconclusive outdoors. It must also be stated that these models are not, generally speaking, mutually exclusive.

A major criticism levelled by Hanyu (1997) is that environmental aesthetics appraisal has been the traditional territory of architects and of design professionals and claims that such preferences have been studied and shown to differ from those of the ordinary citizen. (Groat, 1982; Devlin, 1990; Downing, 1992; Purcell and Nasar, 1992; Stamps and Nasar, 1997). The notion of experience within the field of environmental aesthetics therefore appears to be inextricably interwoven with the creation of individual preferences. Indeed, Stamp and Nasar (1997) claim "...it appears that people prefer styles that fit their knowledge structure" (Stamp and Nasar, p29).

Hubbard (1996) notes "...an architectural stimuli will evoke a range of images and ideas not merely confined to spatial or physical characteristics" (Hubbard, p85). He is critical, however, of the individual (micro-level) and social- cultural (macro-level) dichotomy, claiming "...environmental preferences and representations are shaped by individuals insertion in (and interactions with) specific sets of social relations" (Hubbard, p90).

Hubbard (1996) extends the debate, and postulates that preference may be embedded in the structure of power and dominance in society. Architects and design professionals may merely be servicing the elite groups by producing landscapes which maintain the taste and distinction of these groups (Bourdieu, 1984; Dovey, 1992). By extension, the protection of specifically selected elements of urban space may well reinforce this sentiment. The relative lack of attention in terms of security design modifications or other crime prevention strategies within residential urban space arguably reflects the preferences held by the designers and policy- makers concerned. As urban designers and architects appear to 'prefer' different urban landscapes and architectural designs, they may well be inferring incorrectly with regard to the locational whereabouts and characteristics of the presence of 'fear of crime'. More crucially, they may be designing residential environments that *they* perceive are safe, while an unknown proportion of future occupants may feel threatened by such designs.

7.7 Social and Physical Incivilities

Ross and Mirowsky (1999) reviewed various studies that have investigated social and physical signs of disorder in the neighbourhood and certain commonalities are apparent, as revealed in Table 7.1 (see below). Litter, graffiti, vandalism, vacant lots, poorly-maintained buildings and grounds, and apparently negligent landlords are cited as examples.

These commonalities have increasing importance in consideration of their close relationship to the fear of crime. Indeed, for Hanyu (1997) "studies of crime and fear have revealed that specific physical incivilities, such as litter, graffiti and vandalism, are linked to fear of crime" (Hanyu, p305). Furthermore, Ross and

Mirowsky (1999) claim that most research has found that the presence of neighbourhood incivilities results in increased levels of fear (Covington and Taylor, 1991; Lewis and Maxfield, 1980; Perkins *et al.*, 1990; Perkins and Taylor, 1996; Rohe and Burby, 1988 and Taylor and Covington, 1993). Taylor (1991) summarises the point succinctly "widespread disrepair, lack of upkeep or maintenance, improper garbage disposal, and so on may lead one to conclude that one is living among moral outcasts and that therefore one is in potential danger" (Taylor, p955).

The distinction between social and physical disorder is not a simple one, and many physical indicators also imply social problems such as graffiti, noise, vandalism and litter. Indeed, Ross and Mirowsky (1999) claim that "only two items relating to building disrepair and vacancy are pure indicators of physical decay" (Ross and Mirowsky, p424). Although, it would not be difficult to argue, that a social dimension exists within these physical indicators.

In terms of criminal activity, the presence or absence of social and physical signs of disorder may be crucial. Taylor (1991) opines that "the environmental 'image' offenders have of an area is associated with the extent to which the area is victimised" (Taylor, p970). It is also important to note that the level of sensitisation to a deteriorating environment will vary from person to person. Taylor (1991) also makes the point that physical deterioration may not always be fear-inspiring. This might occur if the inferred causality of a vacant lot is attributed to city bureaucrats or slum landlords, rather than to a lack of neighbourhood care or concern, for example.

Table 7.1 **Social and Physical Signs of Disorder**

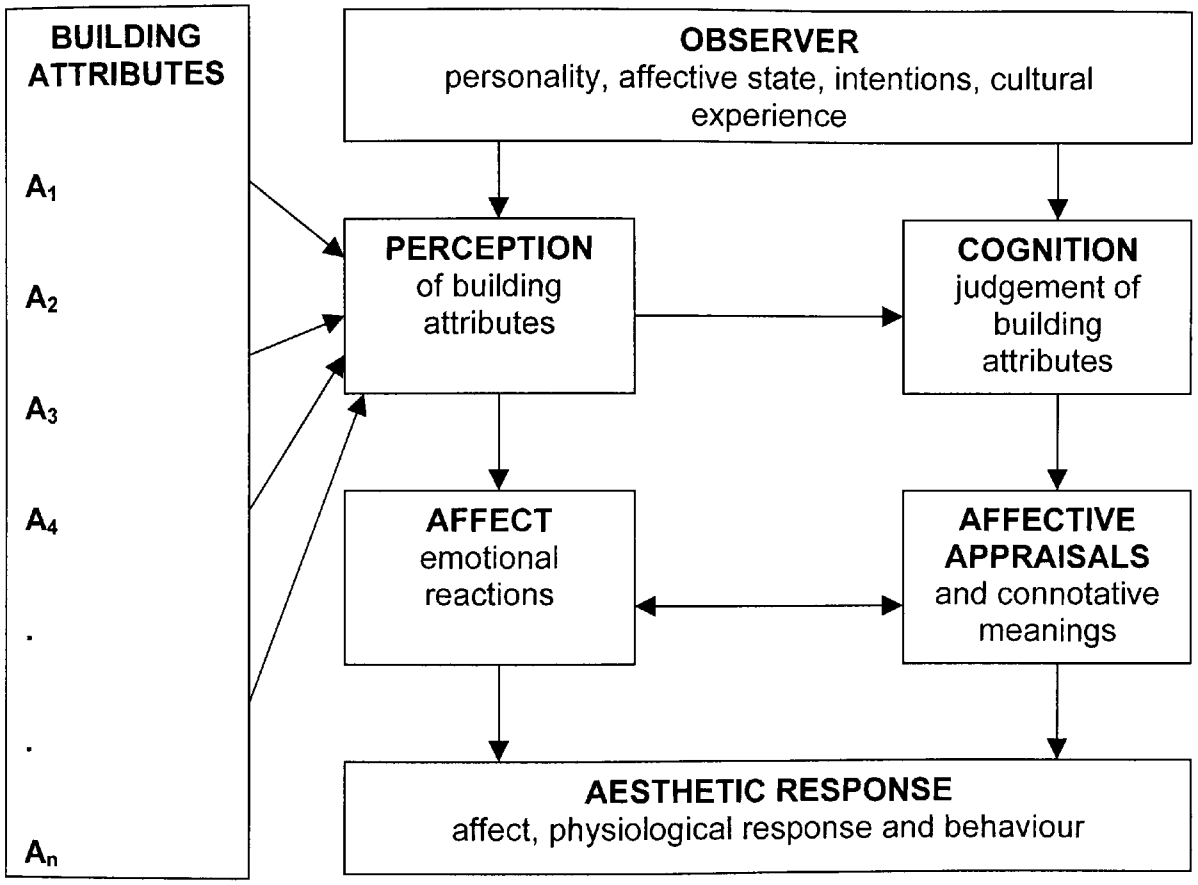
Lewis and Maxfield	Lee	Taylor and Hale	Gates and Rohe	Rohe and Burby	Skogan	Covington And Taylor	La Grange *et al.*,	Taylor and Covington	Perkins *et al.*,	Rohe and Stegman	Perkins and Taylor
1980	1981	1986	1987	1988	1990	1991	1992	1993	1993	1994	1996
Incivility	Neighbourhood Problems	Neighbourhood Problems	Neighbourhood Problems	Incivility	Disorder	Incivility	Incivility	Incivility	Incivilities	Community Problems	Disorder
Teenagers loitering	Noise	Loitering teenagers	Stray dogs	Drug use	Loitering	Drug use	Unsupervised Youths	Small groups on the street	Homeless Loiterers	Drug use	Loitering youth
Drug use	Crime	Drug use	Noisy	Gangs	Drug use	Public drinking	Noise		Drugs addicts	Harassment	Drug dealing
Vandalism	Inadequate police protection		Neighbours hassled by neighbours		Gang activity	Neighbours fighting and arguing			Youth gangs	Burglary	Harassment fights and arguments
			Improper garbage disposal		Harassment on the street				Prostitutes	Muggings	Vandalism
Graffiti	Abandoned buildings	Vacant lots	Poor property maintenance		Vandalism	Graffiti	Graffiti	Graffiti	Vandalism		Litter
					Litter						
Abandoned buildings	Litter/ trash	Empty houses		Abandoned buildings	Abandoned building	Vacant housing	Vacant houses	Vacant houses	Graffiti	Litter	Vacant housing
	Junk	Neglect of lawns and garbage	Landlords don't care about buildings	Poor building maintenance	Garbage		Litter	Litter	Litter		Trashed vacant lots
Broken windows	Rundown housing	Negligent slumlords		Poor ground maintenance	Junk	Trash/litter	Abandoned cars	Housing density	Unkempt housing	Run-down buildings	Unkempt property

Source: From Ross and Mirowsky (1999, pp427-428)

7.8 Understanding the Aesthetic Response

Understanding the response process in environmental aesthetics can provide useful insights into both the nature and process of perception, which are crucial to the design and refinement of the research methodology. Nasar (1994) provides a graphical representation of the process of aesthetic response in Figure 7.4.

Figure 7.4. **A Probabilistic Model of Aesthetic Response**



(Arrows indicate probabilistic relationship) Source: From Nasar (1994, p381).

The nature of life experience of, and within residential space, and representations and images portrayed in the media, certainly have an influence on how the built environment is perceived in terms of criminality. This introduces the notion of 'prejudice'. According to Eiser (1990) "the term 'prejudice' refers to the kinds of assumed similarities and differences on which some people construct their views of the world" (Eiser, p52). The repetitive presentation of criminal activity, often in poor residential environments, particularly in contemporary television soaps and

police dramas may well nurture the construction of a world-view that is based on secondary, rather than primary experiences.

It appears that a macro-level approach has largely been preferred and adopted more enthusiastically. The protection of shopping centres and municipal buildings within city centres, and the close-circuit surveillance and monitoring of car parks and major highways have represented the core response to crime and the fear of crime in terms of crime prevention initiatives. The relatively recent concentration of efforts towards areas identified as crime 'hot spots' according to official crime statistics, however, can be criticised on two counts. Firstly, Chapter 4 has questioned the efficacy and integrity of official crime statistics, claiming they are inadequate in terms of reliability and scale of aggregation for any worthwhile analysis of the criminogenic capacity of urban residential space. Secondly, Chapter 6 has suggested that certain elements of the built environment may engender fear that may not have been considered, since, according to statistics, they are not crime 'hot spots'. Such areas do not, therefore, constitute a problem, nor do they apparently require a solution. A perceptual approach may contribute significantly towards redressing this crucial imbalance.

7.9 Light – An Influential Factor

Since it is necessary to have light to facilitate vision, it seems prudent to investigate perceptions of residential design in a daytime environment. Otherwise, the investigation would focus more upon the nature and extent of lighting, rather than the spatial configuration of urban residential place, and introduce notions of the 'fear of the dark', which may substantially confuse subsequent findings. Hanyu (1997) studied visual properties and affective appraisals and largely confirmed previous research. He found that 'safeness' was associated with physical behavioural activity and well-lit visible places at night. He notes, however, that the results are not transferable to daytime scenes. Hanyu (1997) claims there are limitations that darkness places upon vision; namely reduced site distance and perception of detail. Places that are well-lit may even appear different at sunset since multiple light sources and reduced brightness result in contrasts and shadows that are not present in daylight. The emotional and affective appraisals of

humans may also differ at night (Box *et al.*, 1988). Indeed, some studies have also shown that fear may be exacerbated at night. Darkness has been found to facilitate the transformation of the world into 'lurklines' (Warr, 1985, 1990) and increase the fear of criminal victimisation in relation to places which insinuate potential crime, such as areas of concealment and no apparent escape (Fisher and Nasar, 1992; Nasar and Fisher, 1993). Hanyu (1997) notes, however, that "further studies in the daylight are essential to determine to what extent the findings are generalised. The results of these studies would help develop better theories and complete design guidelines" (Hanyu, p311).

The crucial influence of light illumination and notions of 'fear of the dark' suggests firstly, that a daytime analysis is more appropriate to an investigation of the influence of design upon fear of crime. Secondly, it reiterates the importance of attempting to capture the photographic 'image' of each design in a standardised and consistent manner.

7.10 The Perception of Risk in Contrasting User Groups

In terms of perceived risk, Eiser (1990) claims this is dependent upon "confidence or trust in the decision-maker" (Eiser, p120). A social judgement made regarding the perceived risk of a medical operation is, therefore, based upon a positive or negative view of the hospital/surgeon. In terms of the perception of safety or risk in the environment, this may therefore implicate attitudes to the police and housing authorities. In the residential environment care and concern for property (territoriality) and the number of 'eyes on the street' (surveillance) may well influence the perception of risk. The 'image' of the residential area, in physical and social terms is also likely to affect perceptions. Generally speaking, it is argued that positive attitudes are likely to produce low estimates of potential risk and vice versa.

McGahan (1984) studied the perceptions of police in Canada relating to the built environment. He suggests that police officers' imagery of contrasting areas can influence operational behaviour. According to McGahan, "the distinction between those elements of their environment which are 'respectable' and those which are

not enriches the imagery of the police, and is closely linked to the daily activities both on and off the job" (McGahan, p129). Research in this area was seen as crucial by McGahan (1984) who stated "we propose that much is to be gained from more extended consideration in a variety of settings of police environmental perceptions" (McGahan, p151).

Ham-Rowbottom *et al.*, (1999) investigated police, burglars' and residents' perceptions of 'defensible space' in detached properties only. They found burglars' views contrasted with those of the police and residents, who shared 86% of their variance. Actual barriers, traces of occupancy and road surveillability were favoured by the police and the residents as factors which affect vulnerability. Symbolic barriers, house value and occupant surveillability were however, most important for the burglars, while road surveillability was the only cue category of 'defensible space' to hold across all three groups. It is argued, therefore, that one objective of this study is the philosophical and operational extension of such work to a wider study of sample groups and a range of characteristic British housing designs.

Regarding the perceptions of offenders, Labs (1989) cites the work of Brown and Altman (1983), who claimed that burglars infer some neighbourhood characteristics from the appearance of the house itself, since the series of photographs presented to the respondents did not show neighbouring houses. Brown and Bentley (1993) studied territoriality and vulnerability in burglarised and non-burglarised homes and found perceptions of territorial concern, neighbourhood reactivity, and homes judged as 'difficult to enter', characterised non-burglarised properties. They also suggest that "burglars' perceptions that neighbours would react to their presence clearly and frequently predicted non-burglarised judgements" (Brown and Bentley, p51).

The perceptions of architects, urban designers and planning professionals have obvious relevance to the design and configuration of urban space. Indeed, Harris and Brown (1996) note that various studies (i.e. Craik and Appleyard, 1980) have indicated "that environmental professionals (i.e. architects and planners) can infer resident income and fear of crime from photographs of street fronts with some

degree of accuracy" (Harris and Brown, p188). Establishing the degree of accuracy is, however, certainly problematic and such an investigation has not been conducted in relation to characteristic British housing designs. Furthermore, Hubbard (1996) has observed differences between user groups regarding environmental preferences and since 'safety' is an integral dimension of preference, further differences are probable.

More recently, Abu-Ghazzeh (1999) studied residential environments in Jordan and suggests "it seems crime in the urban environment stems from a complex interaction between built form, offenders' perceptions, and community dynamics" (Abu-Ghazzeh, p67).

The pertinence of such imagery to the design-affects-crime debate cannot be understated. Tijerino (1998) opines that the process by which a person perceives personal space and the built environment "is a concept essential to defensible space evaluations, and one that has been absent from previous evaluations" (Tijerino, p327).

Lupton (1999) studied 'dangerous places' in Sydney, Australia and suggests "people 'know' that they are dangerous places even if they have never visited these areas, because they hear about them constantly in the mass media or from others as sites of crime" (Lupton, p11). This comment perhaps relates more closely to Newman's fourth 'defensible space' mechanism; that of 'geographical juxtaposition', but nevertheless emphasises the crucial importance of 'perceptions'.

In their 'Broken Windows' theory, Wilson and Kelling (1982) highlight the crucial role of perceptions in the withdrawal of the community when fear of crime and lack of effective property management reduces informal social controls. In addition to perceptions regarding the maintenance of the built environment, where this fear of crime is located and the extent to which 'defensible space' is perceived by different user groups, represents a novel approach to investigating the complexities of criminality and the urban environment.

7.11 Summary

This chapter has discussed a range of concepts and theories in the field of environmental psychology, which are essential to understanding the notion of perception. Chapter 4 has suggested that for the sample groups, certain key socio-economic dimensions need to be collected. Similarly, an investigation into the psychology of perception has revealed that residential experience may also need to be controlled and accounted for. Indeed, 'experience' may constitute powerful elements of 'identity', and it is therefore argued that specific socio-economic or residential data may reflect this aspect. Controlling for experience in terms of residential dwelling is certainly a complex and problematic task. The collection of data concerning crime and residential experience appears crucial to this research. This chapter has also assisted in focusing and refining the sample groups for investigation by highlighting the crucial subjective nature of perceptions. By implication, certain key user groups warrant consideration.

In addition, this brief review has provided insights regarding the range of research methodologies that have been used, and by extension, those that warrant further consideration for the task at hand (see Chapter 8). More crucially, perhaps, this chapter has highlighted the intrinsically individual nature of perception, and as such, has suggested that the research instrument should include aspects of both the qualitative and quantitative nature that reflect the subjective perceptions of individuals. Indeed, as Garcia-Mira *et al.*, (1997) observe "most of these stimuli are presumably not perceived in a simple way, but are 'coded' on internal scales in the subject's mind; in other words, they are perceived subjectively" (Garcia-Mira *et al.*, p243). It is postulated that an investigation of the perceptions of planning professionals, who design and configure architectural space; and those of police officers who actively manage this space, are two such crucial user groups. Furthermore, as Chapters 2 and 3 have argued, Newman's '*Defensible Space*' (1973) has not been extensively evaluated in relation to this crucial perceptual component. Indeed, it is argued that since 'defensible space' involves the capacity of the built environment to influence the perception of territoriality, surveillance and image in order to deter criminality, the perceptions of the criminal fraternity are imperative to the discussion. Chapter 6 has suggested that five characteristic

housing designs warrant evaluation, and as such the crime of burglary and general street crime around the dwelling are appropriate for investigation. The perception of convicted burglars therefore offers a unique avenue for exploration. Indeed, as Tijerino (1998) has opined that "human perceptions are essential for the emergence of defensible space (in particular the perceptions of the would-be offender)" (Tijerino, p323). The citizen also requires consideration as a primary user of residential space. Moreover, it is their perceptions and fears that may influence behavioural patterns and therefore affect social interaction, community cohesion and crime.

Chapter 8 briefly discusses the research methodologies available and their relevance to the task at hand. The previous chapters have contributed significantly towards the design and refinement of the research instrument, which underpins its subsequent discussion and presentation in the following chapter.

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Chapter 8

Research Methodology

8.1 Research Philosophy

Chapter 1 has set out the aims and objectives of the research, which are broadly, to investigate the criminogenic capacity of specific residential housing designs. Chapter 4 has argued that recorded crime statistics fail to provide an accurate indication of levels of crime. The data that is available is also aggregated and, as such, is wholly inappropriate for an analysis at the microscopic level, required for an investigation into the criminogenic capacity of specific urban residential housing designs. Furthermore, it is argued that recorded crime statistics are unsuitable for analysing the fear of crime and that an alternative instrument requires construction to collect such data. Indeed, places that engender fear may not be recognised or acknowledged if, according to statistics, they are not 'high' crime rate areas. In addition, Chapter 7 has revealed that perception is predominantly an inherently experience-based individual concept, which indicates that subjective data will need to be assembled. Furthermore, Chapters 2 and 3 have highlighted the crucial perceptual perspective within 'defensible space', which has not been subject to extensive research, particularly in relation to British housing designs. It is therefore contested that the most useful way of pursuing an investigation into perceptions of 'defensible space' crime/deviancy and the fear of crime will involve the collection, collation and interpretation of qualitative and quantitative primary data derived experimentally.

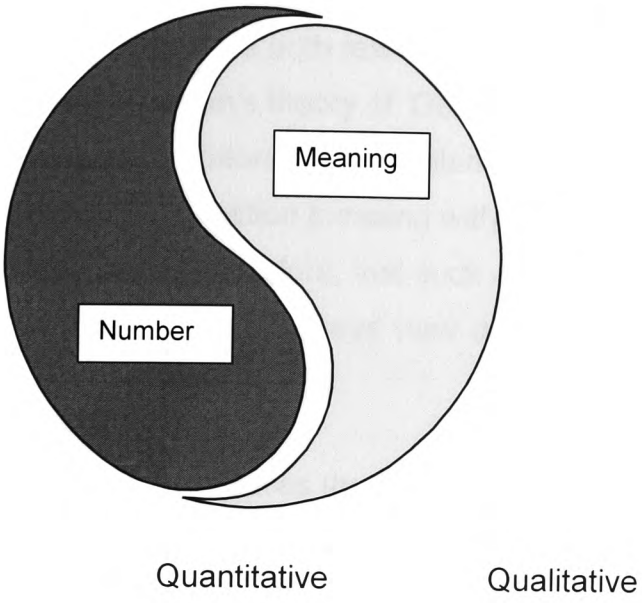
This chapter reviews a range of research methodologies and evaluates their potential for application to the task at hand. Three pilot studies were also undertaken to assist in the refinement of the research instrument and are also briefly discussed. Finally, this chapter proposes a research strategy and methodology, which, it is argued, can provide crucial and exploratory insights into the perception of crime, associated with selected residential designs in a typical British city.

8.2 Qualitative and Quantitative Approaches

Dey (1993) claims that quantitative and qualitative data should not be set in opposition, thereby encouraging partnership rather than conflict. He presents the

following diagram (Figure 8.1) which he claims "reflects the mutual dependence of both types of data" (Dey, p28).

Figure 8.1 Quantitative and Qualitative Data in Dynamic Equilibrium



Source: Dey (1993, p28)

It is argued in this chapter, that both methodological stances offer separate but useful ways of moving forward. Qualitative research can provide information concerning individuals' interpretations and offer richly descriptive accounts of perceptions, attitudes, beliefs, views and feelings. Indeed, if the residential environment is perceived differently, in terms of 'defensible space' crime and the fear of crime, then there may also be contrasting opinions as to what solutions are proposed and where they require implementation. Agreement in this regard, however, would also represent a significant finding.

Hakim (1987) notes that "qualitative research can be harder to sell to policy-makers because it is a less well-known type of study than large-scale quantitative research" (Hakim, p29). However, the methodology proposed involves quantitative data collection, as well as the quantification of qualitative data which is included, subsequently allowing the results to be more amenable to both analysis and policy-makers. Hakim (1987) stresses the utility of qualitative research at the micro

scale, claiming "if surveys offer the bird's eye view, qualitative research offers the worm's eye view" (Hakim, p28).

Quantitative methods, on the other hand, can provide the statistical framework to objectively analyse patterns and trends and consider various socio-economic and demographic data. Such methods are both relevant and useful in investigating the interwoven complexities of Newman's theory of 'Defensible Space'. The perceptive elements of 'defensible space': territoriality, surveillance and image, can therefore be probed via simple and direct question phrasing with both closed and open response categories. It is argued, therefore, that such a holistic approach can go some way towards quantifying the 'worm's eye view' and enabling it to inform the 'bird's-eye view'.

More generally, McNeill (1995) introduces the vital concepts of reliability, validity and representativeness, which, he claims, are essential prerequisites for any research to be competent. Reliability is in evidence when "the research could be repeated, and the same results would be obtained" (McNeill, p14). Validity involves the question as to whether the data collected represents a true picture of what is being studied; "it must be accepted that what we are collecting is people's answers to questions"(McNeill, p15). Finally, research must be representative. The group under study must be representative or typical of others, to enable generalisations to be made. Research, for McNeill, therefore "depend*(s)* for the accuracy of their results, on choosing the right people to ask, and on having the right questions to ask them" (McNeill, p18). It is argued that the review of research concerning fear of crime (Chapter 6) and an inspection of the available methodologies in addition to a brief discussion of three pilot studies which have previously been conducted, can contribute some way towards achieving reliability, validity and representativeness in the research methodology. Careful and considered sample selection and questionnaire design serves to strengthen further, the performance of the research instrument.

8.3 Previous Methodological Approaches

Traditionally, environmental criminology has utilised official crime rates to study the spatial concentration of crime. As stated in Chapter 1, early studies investigated areas such as the spatial concentration of offenders (Shaw and McKay, 1942) and later, the concentration of offences (Newman, 1973). It is argued that such approaches fail to consider people's perceptions regarding crime and that some areas may create/nurture fear whilst statistically they appear safe. The rejection of an approach utilising published socio-economic data and recorded statistics (Chapter 4), therefore, necessitates an alternative method for measuring the criminogenic capacity of specific residential housing designs. This involves an investigation into the perception of 'defensible space', crime / deviancy and fear of crime relating to these selected designs.

In undertaking any study, there are several widely used and accepted methodological approaches available and these require inspection and evaluation. These are, participation in the setting, participant observation, interviewing (including the use of questionnaires) and documentary research, which will be discussed in relation to this study.

8.3.1 Participation in the Setting

This technique involves first hand experience of the social world chosen for study. Ideally the researcher will immerse himself/herself in the setting to hear, see and experience reality as the participants do – taking considerable time to learn about the routines of daily life. Such an approach would, perhaps, provide interesting data as to the movements and behaviour of people in the environment. It promises little insight, however, into the perceptions of 'defensible space' crime/deviancy or the fear of crime.

8.3.2 Participant Observation

Participant observation involves the methodical noting and recording of events, behaviours and objects in the social setting. Observation can enlighten the researcher as to the behaviours and the meanings that are associated with such actions, and assumes that such activity is an indication of deeper values and

beliefs. The value of this approach for specific types of inquiry is not contested: "observation is a fundamental and critical method in the qualitative inquiry" (Marshall and Rossman, 1995, p80). However, in common with participation in the setting, observation would arguably provide little systematic insight into the perception of 'defensible space' crime/deviancy or the fear of crime. Such a method would possibly be limited to an inquiry into the avoidance of certain geographical spaces, or behavioural changes within it (i.e. walking quicker, "squaring shoulders" or crossing the road). It is apparent therefore, that both participation in the setting and participant observation, are not suitable methods of inquiry for the task at hand.

8.3.3 Interviews

Interviews provide a further instrument for collecting data. Indeed, May (1993) claims "they can yield rich sources of data on people's experiences, opinions, aspirations and feelings" (May, p91). The process of uncovering such data rests upon a crucial aspect; "the participant's perspective on the phenomenon of interest should unfold as the participant views it, not as the researcher views it" (Marshall and Rossman, 1995, p80). Systematic questioning is also required in combination with the display of an attitude of acceptance with regard to participant responses. Interviews can broadly be divided into four categories: structured, semi-structured, unstructured (also referred to as 'informal' or 'focused'), and 'group' interviews.

The 'structured' interview "relies upon the use of a questionnaire as the data collection instrument" (May, p92), whereby "questions are asked in exactly the same way of every respondent" (McNeill, p23). The responses are then assumed to be real, and not the result of the interview setting itself. The response made is recorded and probing for additional information is generally discouraged. According to McNeill (1995), wording must "be clear, precise and unambiguous" (McNeill, p27), particularly for closed questionnaires. This approach is thought to allow little scope for the respondent to express their own opinions but offers much for a highly specific and quantitative inquiry into 'defensible space', fear of crime and crime and deviancy. A binary framework of yes/no responses to specific questions provides a solid quantitative foundation for an investigation of perceptions regarding Newman's 'defensible space elements' of territoriality,

surveillance and image, in addition to probing fear of crime and perceptions of crime/deviancy. In consideration of this issue, it was considered prudent to include this approach for two of the three sections of the methodology (Questionnaire 1 and 3) and include a less formally structured questionnaire, with open-ended questions (Questionnaire 2) which would be more amenable for the collection of crucial subjective responses.

The 'semi-structured' interview would normally utilise specific questions where responses are open-ended and can be probed to encourage elaboration, and therefore elicit more detail. These place fewer constraints upon the responses but over-probing is identified as a possible problem along with classifying and tabulating responses. In terms of eliciting subjective responses, such a technique was considered and firmly rejected on the grounds that group discussion would interfere with the probing of the subjective perceptions of individual respondents.

'Unstructured', 'informal' or 'focused' interviewing is open-ended in character and need not necessarily utilise a questionnaire. Such an approach includes 'life history' and 'oral history' techniques. It is placed "squarely at the qualitative end of the research spectrum" by providing "...qualitative depth by allowing interviewees to talk about the subject in terms of their own frames of reference" (May, 1993, p94). The qualitative aspect is particularly attractive, however, this investigation necessitates a highly specific questionnaire to elicit results which can be meaningfully and systematically interpreted.

Group interviews "allow the researcher to focus upon group norms and dynamics around issues they wish to investigate" (May, p94). Control of the group and power relationships within it can prove problematic. Indeed, the number chosen for a group and how the group interacts can clearly influence the character and content of the results. There needs to be an equilibrium maintained between the group being too small to study interaction, and too large to facilitate full discussion by all members (Marshall and Rossman, 1995). Group interviews can provide interesting data when compared to individual interviewing since "our actions and opinions are modified according to the social situation in which we find ourselves" (May, p95). This approach would hinder the articulation of the individual perspective and

difficulties managing the group and interpreting the responses, renders this approach inappropriate for this research project. However, the presentation of environmental stimuli and a questionnaire to individuals within a group setting can provide both the quantity and quality of responses that are required in a controlled setting, within which interaction is not permitted.

One advantage of the interview technique generally, is that large amounts of data can be gathered relatively quickly and it is possible to conduct immediate follow-ups and clarification. However, disadvantages are also identified. Co-operation is required and interviewees may be unwilling or feel uncomfortable responding to the exploration of certain ideas. Respondents may also be oblivious of recurring patterns in their lives. Questions may be misunderstood by the respondent and responses may be misinterpreted by the interviewer. Certain lines of questioning can be problematic in that interviewees may have powerful reasons to avoid conveying the truth. Expertise on the part of the researcher is also important; "interviewers should have superb listening skills and be skilful at personal interaction, question framing and gentle probing for elaborations" (Marshall and Rossman, p81). However, the analysis of the volumes of data that can be obtained can be time consuming and the importance of quality is also a stated consideration. They argue that "...the researcher should have demonstrated through the conceptual framework that the purpose of the study is to uncover and describe the participants' perspectives on events; that is, that the subjective view is what matters" (Marshall and Rossman, p81). Indeed, the subjective nature of respondents' perceived levels of fear, indicates that respondent data concerning these areas requires collection and analysis. In addition, quantitative and qualitative dimensions are both crucially important components to the questionnaire.

More specific types of interview are identified by Marshall and Rossman (1995). Ethnographic interviewing employs questions to gather cultural data. Samples of language, cultural knowledge and the meaning of various terms in the language can be gleaned from such interviewing. Again, this particular approach offers limited potential and is inappropriate for this research project.

Phenomenological interviewing involves the study of experiences and the methods used to collate such experiences to develop a worldview. Such an approach would necessitate in-depth interviews with a relatively large number of respondents and, it is argued, would be difficult to apply given the character of the topic under investigation. Data concerning residential and crime experience does need to be collected, but the process by which it is accumulated is not a central concern for the focus of this research.

Elite interviewing concentrates on a particular type of interviewee. This is defined as "the influential, the prominent, and the well informed people in an organisation or community and are selected for interviews on the basis of their expertise in areas related to the research" (Marshall and Rossman, p83). Valuable information can be obtained due to the positions held by these respondents as far as social, political, financial and administrative matters are concerned. They also note how "elites can usually provide an overall view of an organisation or its relationship to other organisations" (Marshall and Rossman, p83). Accessibility to elites can be problematic as can the possibility of the interviewee taking control of the interview. Certain demands are placed upon the interviewer who must "establish competence by displaying a thorough knowledge of the topic or ... by projecting an accurate conceptualisation of the problem through shrewd questioning" (Marshall and Rossman, p84). Elites can contribute perceptive insights and meaning and often the result is high quality data.

The research in this thesis certainly utilises the perceptions of what might be termed 'elite groups' (i.e. police officers, planning professionals and burglars). Interviews using both open-ended and closed questionnaires, in combination with the presentation of photographs of varying residential types are potentially, extremely productive and intriguing in this regard. The nature of the questionnaire will receive deliberation in section 8.5 below.

The use of focus groups concerns the interviewing, frequently of some seven to ten people, who are unfamiliar with each other but who share characteristics relevant to the inquiry. This approach is quick, relatively low cost and can provide flexibility to explore unanticipated avenues of research. Results are often highly

valued and findings appear credible. However, there is less control over a group interview and time can easily be consumed discussing irrelevant topics. Data can also be difficult to interpret since context is essential in understanding the comments made by respondents. In addition, highly trained observer-moderators are required and in a group environment, such subjective individual perceptions may frequently become distorted or blurred. It was concluded, therefore, that since the individual perceptions of 'defensible space', fear of crime and crime/deviancy are the areas being investigated, this approach was also discarded. Although, as previously stated, certain 'elite' or 'focus' groups were sought in order to complete a fear of crime, crime/deviancy and 'defensible space' evaluation. This approach probes the perceptions of specific and selected residential dwelling types, via the use of photographic slide representations and a questionnaire, in a non-integrational group setting.

8.3.4 Document Review

Finally, Marshall and Rossman (1995), identify document review as an intriguing if somewhat restricted method for gathering information. Gathering and analysing documents can be useful in understanding the subject area of study. However, since the literature review has not uncovered any such operational examples of documentation that can be utilised for the task at hand, such an approach has obvious limitations.

Various supplementary data collection techniques can also be identified. Narratives may rely on journal records, photographs, letters and other data to seek to understand sociological questions about groups, communities and contexts through the lived experiences of individuals. Various problems are identified such as selective recall by respondents, memory replacement by inferences and the omnipresent possibility of a reinterpretation of the past. Such an approach can also be time-consuming and laborious and standards and common definitions can often prove difficult to identify. In conclusion, the narrative approach appears unlikely to readily yield the specific and contemporary perceptions of the built environment that this research is seeking.

However, the spoken narrative of respondents as they 'journey' through a particular range of residential areas does merit some careful consideration. Indeed, Lynch and Rivkin (1959) studied peoples' perception of landscape in Boston, USA and "recorded the impressions of persons as they walked through the city streets" (Lynch and Rivkin, p24). Although this study concentrated on the cognitive mapping of individuals as they walked through a particular area, such an approach may well provide uniquely interesting data relating to the fear of crime. This avenue of investigation may indeed capture a more holistic perception of the environment and subsequently, more comprehensive measurements of the fear of crime, but offers little for the highly specific approach adopted. The specificity of the images selected for investigation and the highly complex nature of the perceptions of 'defensible space' crime/deviancy and fear of crime certainly invalidates the utility of this approach. In summary, it argued that operational, cost and time considerations render such an avenue of investigation impracticable and expensive.

Life history approaches, where an insider's view of a culture is provided, would also appear to offer limited opportunities in terms of the proposed investigation. The same must also be said of any historical analysis, which might detail a past event. However, although focused historical narratives are available (Mayhew, 1861-2; Fitzgerald *et al.,* 1988) which provide fascinating and intriguing insights into the past, reference to the relatively modern theory of 'defensible space' and contemporary perceptions of residential space are obviously lacking.

8.3.5 Kinesics and Proxemics

Marshall and Rossman (1995) also identify kinesics, or the interpretation of body movements, as a 'window' into unconscious thought. This method would entail the filming or detailed recording of activity in a wide range of residential areas. The consideration of cost and the problem of interpretation of results disqualify this fascinating line of inquiry as inappropriate.

Proxemics is "the study of people's use of space and its relationship to culture" (Marshall and Rossman, p93). The researcher focuses on micro-space, from interpersonal distance to the arrangement of furniture and architecture. Proxemics

is useful for the analysis of how individuals react to others regarding space and the invasion of their territory. Space measurement instruments are currently limited, yet Marshall and Rossman (1995) claim that the use of proxemics within research into the built environment is increasing. Indeed, the research currently being undertaken at the Space Syntax Laboratory, Bartlett School, University College, London (Hillier, 1996) might well be placed within this category. However, for this research project, such an approach may provide an insight into how people use space, but would reveal little in terms of fears relating directly to the characteristics of residential space or the more specific 'defensible space' and crime/deviancy investigation that has been adopted. Furthermore, utilisation of an inappropriate empirical base for understanding the relationship between crime and design has already been rejected in Chapter 4.

Another technique that was reviewed is referred to as 'unobtrusive measures', where no formal co-operation with the subject is sought and data is gathered without the knowledge of the participants, i.e. documents, archives and physical evidence. This approach is generally considered useful for the purposes of triangulation, but in terms of revealing the perceptions held by respondents, it appears inappropriate for the proposed research.

8.3.6 Projective Techniques / Psychological Testing

Projective techniques and psychological testing involve strategies that are directed towards comparative studies on culture and personality. The Thematic Apperception Test (TAT) is used to assess personality traits based on stories told by the respondent, concerning a series of images. The Rorschach Inkblot Test assesses personality by considering respondents' interpretation of symmetrical inkblots. Psychological dimensions have been discussed in Chapter 7 and, notwithstanding the illumination such knowledge provides to a general understanding, such methodological techniques are clearly inappropriate for this research project.

8.3.7 Surveys

Surveys can be utilised for making inferences about large numbers of people, via data gathered from a relatively small sample from that group. These can include

mail and telephone surveys and personal interviews. Such an approach is particularly useful "when the goals of research require obtaining quantitative data on a certain problem or population" (Marshall and Rossman, 1995, p97). Accuracy is identified as an advantage since results can be generalised to a wider population within known error terms. Surveys allow "rapid statistical analysis and are comparatively easy to administer and manage" (Marshall and Rossman, p97). Limitations include a lack of application for examining social relationships and the criticality of the sample and sample size to the survey's accuracy and potential for generalisation. Operationally, large numbers of respondents are required for interview, and, therefore, the survey has limited application for the proposed research methodology. However, future follow-up research may well be extended in this regard and the generation of 'fear of crime' mapping techniques and surveys does present an intriguing opportunity to contribute to existing 'objective' statistical mapping approaches which traditionally utilise recorded crime statistics.

8.3.8 Ethnographies

Films, videos and photographs have been used in visual anthropology and film ethnographies to capture the daily life of groups being studied. This approach may yield interesting data, especially in situations where people travel through areas that are perceived to be unsafe. However, its application would be limited for the proposed research project. The cost of filming activity in a wide range of residential dwelling types would certainly be beyond the budget for this research and raises a host of ethical questions as well as the additional problem of interpreting the vast amount of detailed information generated.

8.4 Sample Groups

The sample group selection also requires consideration. Hakim (1987) critically identifies the major potential problem of lack of representativeness when utilising small numbers of respondents. However, since the task at hand seeks to identify differences or similarities in perceptions, between specific groups, the sample can be considered broadly representative by way of the inclusion of pre-selected individuals within each specific group.

Chapter 7 has highlighted the different perceptions of professionally-trained architects/planners and those of 'ordinary' citizens in the field of environmental preferences. 'Liking' in this area of research has been found to link closely with notions of perceived safety (Hanyu, 1997). More recently, Ham-Rowbottom (1999) found that police and resident perceptions differed from those of burglars in relation to 'defensible space' cues present in detached properties. It is argued, therefore, that fear of crime may emanate in different places and 'defensible space' may be interpreted in contrasting ways for these and other user cohorts.

McNeill (1995) draws attention to the process of selecting a representative sample of the population. "What is true of the sample should be true of the population or at least it should be possible to calculate the likelihood of its being true" (McNeill, p36). A sampling frame must be produced initially (e.g. the electoral register) then a certain number of respondents can be selected from it. Crucially, however, this research does not attempt to provide a representative sample of the population, rather it seeks to provide insights into the perceptions of various key user groups. Therefore, only brief commentary of the various frameworks for sampling are discussed.

'Random sampling' involves choosing names 'out of a hat' or using random numbers, while 'quasi-random' or 'systematic sampling' would choose every tenth or twentieth person on a list for example. 'Stratified sampling' selects appropriate numbers of certain groups (i.e. by age, social class, race or gender) to avoid disproportionate representation. If the researcher chooses the number from each group to be in the sample this is known as 'quota sampling', while 'multi-stage sampling' involves drawing one sample from another (i.e. parliamentary constituencies, polling districts, addresses and individuals). The census can be used to ascertain the distribution in the population of these groups and a quota target is created to represent an approximation of society. Finally, 'snowball sampling' involves identifying certain key individuals in a population, interviewing them and then requesting them to suggest others who might also be interviewed. However, this approach requires caution and McNeill questions the representativeness inherent in such an approach.

The sample groups selected for investigation provide insights into the perceptions of various influential stakeholders with regard to the fear of crime, crime/deviancy, 'defensible space' and socio-economic associations relating to common British housing designs. Those selected are convicted burglars (HM Prison, Cardiff), planning professionals (Cardiff City Planning Department), police officers (Merthyr Tydfil Police Station) and young adults (University of Glamorgan undergraduates). The selection of various 'professionals' can be justified by reference to the research that has been extensively carried out in the area of environmental aesthetics (Chapter 7). The perceptions of convicted burglars (arguably non-professionals in consideration of their incarcerated predicament) are essential to understanding how 'defensible space' is understood by the perpetrators of criminality. The perceptions of police, representing those who help to maintain law and order, and those of planning professionals who plan, design and configure urban space are similarly crucial to understanding 'defensible space' and the perception of common residential housing designs. The perceptions of citizens are also pertinent since they are prominent users of residential space.

Furthermore, since there are often differences in defining the location of 'where' is fearful, there may also be disagreement as to 'where' crime prevention initiatives or estate management practices are best implemented. Similarly, conflicting interpretations of 'defensible space' may suggest modifications to SBD and CPTED initiatives, while conversely, commonalities of perspectives will be equally intriguing.

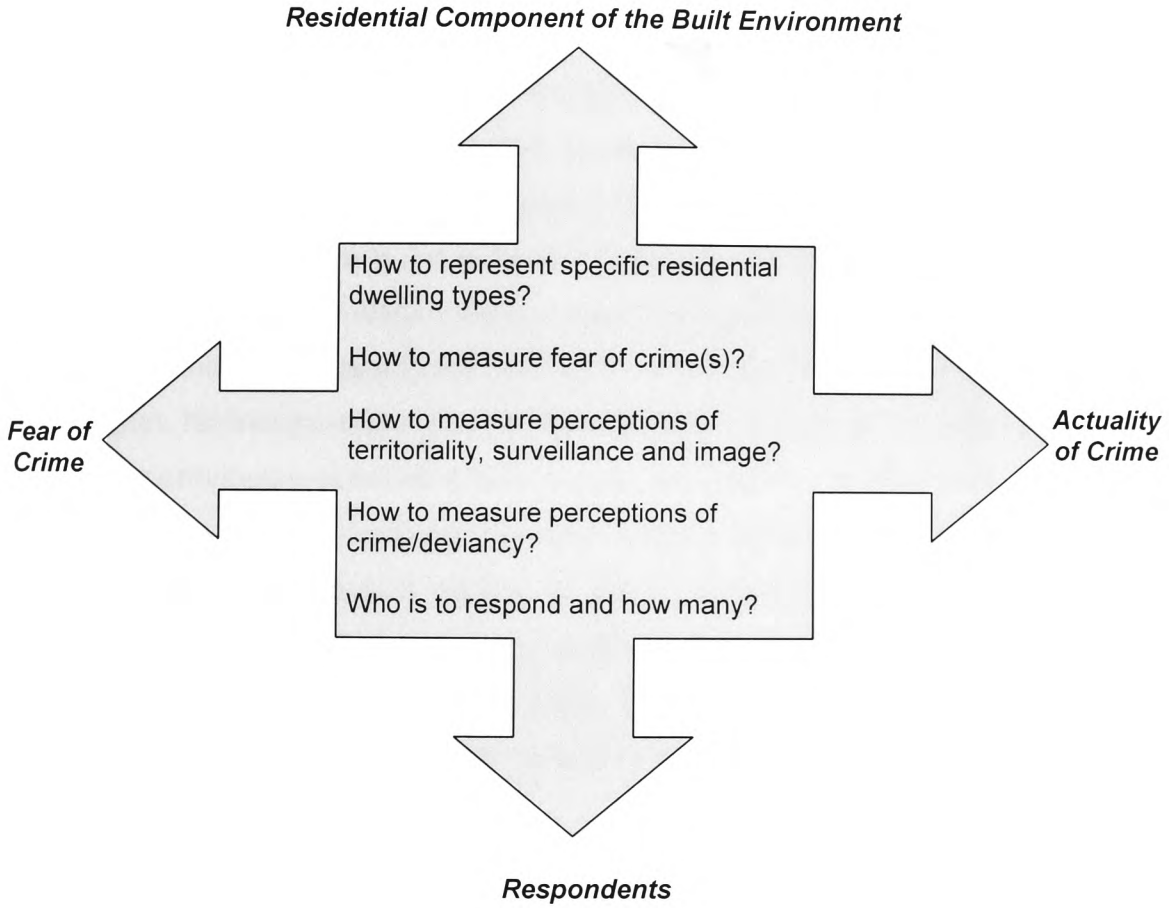
8.5 Pilot Studies

Pilot studies are usually carried out to test the usefulness and reliability of the questionnaire and it is essential to examine the initial phrasing of questions to check for bias, sequence, clarity and face validity (Marshall and Rossman, 1995). McNeill (1995) concurs, urging the use of a pilot study to refine the questionnaire on a number of respondents similar to those targeted by the actual proposed research. Harris (1997) claims research instruments can be tried on a few subjects "to see whether it makes sense to them, to uncover any serious flaws or problems that might have been overlooked at the design stage *[and]* to generally 'tighten-up'

the procedure" (Harris, p118).

The presentation of images of various housing designs and the questionnaire design were tested on a small-scale, in the first pilot study to assist in the selection and refinement of the methodology. Figure 8.2 illustrates the fundamental issues under investigation.

Figure 8.2 **The Fundamental Problem**



8.5.1 The First Pilot Study.

This section discusses initial attempts to create a research instrument that could be used to define and gauge the fear of crime in this respect (see Appendix Two).

Initially, a series of colour photographs were taken of five types of housing common to British cities, as discussed in Chapter 5. A variety of terraced, semi-detached, detached housing and flats were selected, although this preliminary

stage made no systematic effort to choose properties according to any criteria, other than housing type and perceived housing tenure. As such, the selection of images was structured to be more-or-less broadly representative of the housing stock found in the British City.

Thirty-six photographs were taken over a period of one week, where the weather varied considerably, and no determined effort was initially made to standardise the distance, angle or volume of housing that was photographed. The photographs were converted to slide format for viewing and further selection reduced the samples to eighteen, in an attempt to avoid repetition and the presentation of ambiguous designs, which, it was considered, may confuse respondents. At this preliminary stage of development, the representations did not include variation in the condition of housing within the same category. However, such a consideration became a central feature in the subsequent refinement of the research tool.
The first subjects tested were initially chosen from amongst fellow researchers and staff from within the School of the Built Environment at the University of Glamorgan. No inquiry was made concerning their socio-economic backgrounds, present or previous residential details or age, although such important considerations became central to the methodology adopted. One respondent had recently been burgled, but no inquiry into previous victimisation was undertaken, a point which suggested that such information certainly warranted collection. This was further supported by the review of fear of crime, which highlighted the importance of previous victimisation to fear of crime levels.

Each respondent was asked "what do you think is the possibility of burglary taking place in this area? Also please state your reason(s)". Reasons were requested on the grounds that it could significantly contribute to the further refinement of the question. Categories for response were; 'very high', 'high', 'medium', 'low', 'very low' and 'no possibility', each scoring 5, 4, 3, 2, 1 and 0 respectively. It was considered necessary to include the last category in order to avoid leading the respondent into assuming there was an automatic possibility of burglary (see Appendix Two). Each respondent was allowed a maximum of thirty seconds to observe the image and any comments made were noted. General comments were also requested at the end of the slide presentation. The slides were shown on a

portable slide projector.

Upon reflection, the validity of the scoring system must be seriously questioned. The selection of the scaling method appears to offer no way forward, since the results were the product of the instrument, rather than a cogent representation of processed respondent data. This first pilot study did provide some illumination and refinement regarding question phrasing, in addition to suggesting the necessity for an alternative instrument to measure perceptions of crime, the fear of crime and specific notions of 'defensible space'.

The most common criticism levelled by respondents concerned the actual view shown of the dwellings. All of the respondents expressed a desire / need to see a rear view to enable a fuller assessment of the property. According to statistics, half of all burglaries eventuate from the rear of the premises (Fisher, 1998), it is argued, however, that the 'image' and notions of territoriality and surveillance, created by a specific residential housing type emanates predominantly via perceptions of the front on the building. Operational difficulties in presenting both front and back views further limited such an approach.

In addition, some respondents expressed difficulty in isolating preconceived ideas relating to council housing from the images presented. A taxonomic dilemma was identified in relation to a property, which was perceived as easy to burgle, yet seemed to offer little potential reward. This ambiguity meant that properties were often graded as 'medium' potential for burglary. It is argued that closed questions with yes/no response categories to specific questions offers the way forward in this respect. Data referring to the accumulation of residential and crime experience will also assist in controlling such prejudice or bias, as Chapters 6 and 7 have suggested. The frailties of the initial scoring system certainly highlighted the need for refinement. It was also clear that the intrinsically subjective nature of fear of crime necessitated the collection of qualitative data.

The foci of the questions are considered to be more appropriate if they refer directly to notions of territoriality, surveillance and image. What people see when they look at an image of a house has been discussed in some detail in Chapters 6

and 7. However, the 'location' of the residential design type and the immediate space around it, require strict delimitation and definition. Since the intention of this research is to inquire into the image of specific residential housing types, representations of the dwellings arguably require the exclusion of the wider aspects of street layout and proximal icons or individuals in the immediate vicinity. The control of such factors arguably facilitates the investigation of the effects of housing design per se, rather than investigating the detailed interplay of physical and social factors that may considerably influence perception of the fear of crime at the broader street or neighbourhood level.

The first pilot study indicted that the phrasing of the questions should focus upon street-crime in general, which may prove more amenable to assessing the concept of fear, with regard to the built environment immediately surrounding the dwelling. 'Minor' incidents of crime such as those committed by rowdy teenagers, graffiti, vandalism and dereliction, street robbery and burglary are considered relevant, particularly with reference to Newman's concepts of 'territoriality', 'surveillance' and image, notions of fear of crime and the socio-economic associations made regarding these images.

8.5.2. The Second Pilot Study

A second pilot study, utilising the eighteen slides in laminated paper format created a matrix for tabulating the results of the paired dwelling type comparisons. This resulted in 153 comparisons (for each image to be compared to all others) for 18 dwelling types which, at a minimum of ten seconds per comparison, amounted to approximately 25 minutes, without allowing time for appropriate commentary. Details of this approach can be found in Appendix Three.

Initial analysis, again, does not reveal any startling trends and results seem to broadly mirror those of the first pilot study, although since only four respondents took part, it is prudent to be cautious in this regard. Comments received have indicated that both pilot studies presented too many images and that operational selection of images must be based upon more prescriptive thinking.

The research instrument required to measure 'fear of crime' and perceptions of

'defensible space' is certainly in need of careful definition, calibration and refinement. The first pilot study tentatively embarked upon the journey towards developing such an instrument. This second pilot study, utilising 'paired images' successfully achieved more of a hierarchy in terms of identifying 'safe' or 'unsafe' designs. However, it has highlighted a crucial issue; the images selected are not sufficiently varied or representative of Britain's residential dwelling types to facilitate further investigation. A major shortcoming of this approach is that although a 'safety' hierarchy was produced, no investigation of the 'defensible space' elements of territoriality, surveillance or image was provided. In consideration of the research aims, such an instrument again seems inappropriate.

8.5.3 The Third Pilot Study

The first two pilot studies have assisted in highlighting many of the complex problems involved in trying to measure the fear of crime, crime/deviancy and 'defensible space' perceptions relating to specific urban residential housing designs. Among the most obvious are; the character and content of the questionnaire, the sample groups and the selection, photography and presentation complexities regarding the environmental stimuli employed. A third study utilised a smaller number of more characteristic British housing designs and collected brief data concerning the respondent. Furthermore, this pilot presented a highly specific closed questionnaire which requested respondent data and perceptions regarding crime/deviancy, fear of crime and 'defensible space' elements based upon a quantitative framework. In addition, a series of highly focused and open-ended questions, probed more subjective responses. This tri-partite approach was found to be significantly more user-friendly and useful, and therefore formed the basis for the research methodology adopted, and can be found in Appendix Four.

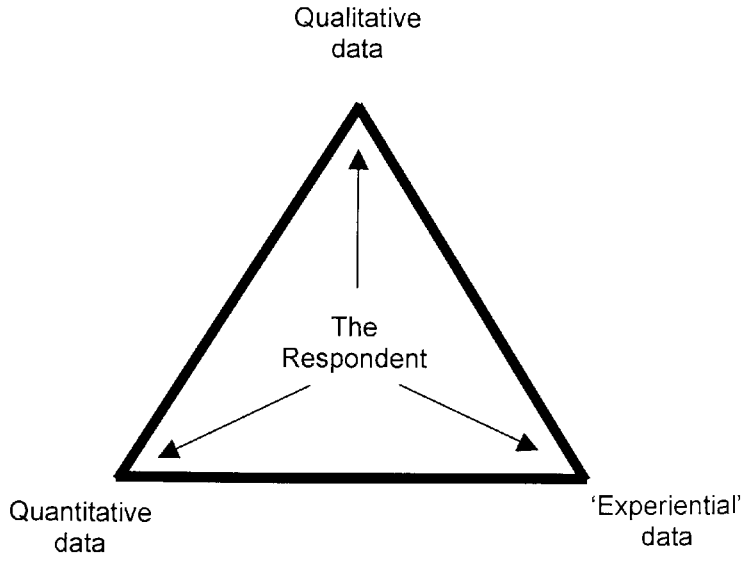
The difficulty of this refinement is acknowledged by May (1993): "in considering which method to use and how many to sample, the researcher can be left in something of a dilemma" (May, p71). The dilemma of who to ask, what to ask and how to ask it, was tested in three pilot studies and the following section (8.6) presents the revised methodological approach that has emerged.

8.6 The Adopted Methodological Approach

In terms of crafting a research strategy generally, Marshall and Rossman (1995) note "...in drafting the proposal, the researcher should consider whether the method will provide adequate information, be cost effective, and be feasible in terms of the sensitivities in the setting and the resources available for the study" (Marshall and Rossman, p99). Indeed, it is a central platform of this research that a combination of quantitative and qualitative data represents the most worthwhile approach to achieve this aim.

The research methodology therefore adopts a tri-partite approach in the triangulation of experiential respondent data, and the utility of qualitative and quantitative investigatory questionnaires. Figure 8.3 provides a graphical representation of this approach, while the questionnaire itself is located in Appendix Five.

Figure 8.3 **The Proposed Methodology**



8.6.1 'Experiential' Data

'Experiential' data refers to the collection of respondents' socio-economic, demographic and residential and crime experience data. This will collectively be

referred to as 'experiential data'. In view of the subjective nature of perception, as identified in Chapter 7, and the subgroup variabilities regarding fear of crime, highlighted in Chapter 6, it is apparent that certain key respondent data requires collection. Initial data collection therefore concerns the socio-economic and demographic background and the residential history and crime experiences of the respondent. How to measure residential history and 'crime experience' is however, not unproblematic. It is argued that the collection of data regarding present and previous residence and crime experience is necessary to provide crucial background data in this regard. The indirect effects and influence of media representations and 'hearsay'/ local knowledge of crime and housing are outside the scope of this study, but nevertheless represents an intriguing area of research.

Gender, age and racial differences in the levels of fear of crime have been highlighted in Chapter 6. Such information is essential and requires collection. Additionally, the inquiry into environmental psychology, and particularly the field of environmental preference, has indicated that design professionals and planning professionals may differ substantially from 'lay persons' in their perceptions of the built environment. By extension, the training and socialisation of police officers may well reflect this phenomenon in terms of differing perceptions of both the fear of crime and 'defensible space' in the residential environment. The collection of data relating to educational and employment background is therefore of crucial importance to the efficacy and reliability of the research instrument. Chapter 7 has eluded to the importance of 'experience' in such a powerful manner as to demand the inclusion of data concerning the residential history of the respondent. This approach also allows for subsequent cross-corellational data exercises. 'Questionnaire - Respondent Data' (see Appendix Five) illustrates the 'experiential' component to the 'tri-partite' approach adopted.

8.6.2 Qualitative Data

The second element of the proposed research instrument involves the collection of qualitative data. Indeed, according to Lupton (1999) "qualitative methodologies have hitherto been little used to address issues of fear of crime" (Lupton, p2). The use of an open-ended questionnaire has been selected, although a different approach, the multiple sorting technique, receives brief, but necessary discussion.

The multiple sorting technique involves the presentation of environmental stimuli in the form of photographs and requires the respondent to sort the images into various meaningful clusters. The number in each group, the number of groups and the criteria by which the images are assembled are all decided by the individual respondent. A general statement regarding the nature of the inquiry would be presented at the outset to provide some 'focus' to the procedure. This approach appears to offer a uniquely qualitative and subjective insight into the perceptions of various stakeholders and individuals in the sample clusters. Indeed, Scott and Canter (1997) and Hubbard (1996) suggest that this method has advantages over traditional semantic scaling techniques and is highly subjectively based. The use of INDSCAL (individual differences scaling) to spatially locate semantic groupings within a grid, provides a cogent instrument for this approach. However, since the research objectives are to probe specific 'defensible space' perceptions, in addition to the fear of crime and socio-economic associations, this approach, although intriguing, is rejected as inappropriate. The specificity of this research project arguably would not be sufficiently captured by such an approach.

The standardised open-ended questionnaire is preferred and arguably allows a detailed written response to highly specific questions. Those which enquire into the nature of what the respondent perceives they might smell, hear, see and experience if they were to imagine they were there, is opined to represent an interesting and more appropriate approach. Perceived activities (socially acceptable/legal and unacceptable/illegal activities), and feelings/emotions attached to, and employment status associated with, each housing design are other crucial themes that warrant investigation. The first question, relating to socially acceptable and legal activities, was designed to engage the respondent in the process of placing themselves mentally within the image and to facilitate their imagination and perceptions, rather than for the collection of specific data. However, the four other questions probing the perceived existence of illegal activities, affective emotions/feelings, suggested improvements and employment status were all designed for subsequent analysis.

This approach, it is argued, may therefore produce more tactile data that is of greater utility and amenable to more specific analysis. The recovery of

environmental meanings for Hubbard (1996) "could and indeed, should, be an important research foci for environmental psychology in the future" (Hubbard, p91).

It is argued that this qualitative section of the questionnaire can provide intriguing qualitative insights into the perception of the urban residential environment with regard to crime, the fear of crime and socio-economic associations relating to common housing designs in Britain (Questionnaire – Part 1, Appendix Five). When these meanings are evaluated and combined with a highly specific quantitative approach which focuses upon 'defensible space' perceptions, crime/deviance and fear of crime (Questionnaire – Part 2, Appendix Five), further intriguing insights can emerge.

8.6.3 Quantitative Data

The third element of the methodology involves the collection of data considered to be predominantly quantitative in nature. Newman's *'Defensible Space'* (1973) has been criticised for a lack of empiricism among other shortcomings, as discussed in Chapter 2. A stated intention for the wider research programme is to investigate Newman's concepts by phrasing a range of questions that are specifically designed to focus on these issues. The perceptions of respondents regarding territoriality, surveillance and image, in relation to a selection of specific and typical housing designs will be investigated, in addition to probing the perceptions of crime/deviancy, the fear of crime and socio-economic associations. It is apparent, however, that the fourth defensible space mechanism, 'geographical juxtaposition', is beyond the scope of this investigation for two reasons. Firstly, there is an obvious difficulty in photographically representing the wider neighbourhood to include all adjacent areas. Secondly, a lack of local knowledge of these areas held by respondents, even if they could be depicted in the photographs, would surely detract from any meaningful measurement of the perception of crime or the fear of crime regarding geographically juxtaposed areas. This may more appropriately be represented as the focus of some future research project.

8.6.3.1 The Questions

A range of questions with dichotomised yes / no response categories were

selected for presentation to the sample groups to enquire into their perceptions with regard to 'defensible space', fear of crime, crime/deviancy and socio-economic associations.

The respondents were asked a series of eighteen questions, in relation to ten images of stereotypical British housing designs. Yes/no responses were graded in a binary fashion whereby a positive response to the question was allocated the score of '1' while a negative response received a score of '0'. For example, if a respondent answered 'yes' to the question, "do you think that the residents here are proud of their property?" the score of '1' was allocated. In addition, seven of the questions are graded so that a 'no' response received a score of '1'. For example, "would you expect burglary to be common in this street?" This was to avoid any simple or noticeable pattern in the responses, and to camouflage the scoring structure, thereby encouraging spontaneity, rather than conformity. In any case, the phrasing of many of these questions was not easily manipulated to facilitate such a consistent design. The question regarding the effectiveness of CCTV was designed as a 'free-standing' question and will be discussed separately (see Sections 9.3.8, 10.3.8, 11.3.8, 12.3.8). When the score for each of the seventeen questions are aggregated and inverted, this serves to construct an 'Absolute Hierarchy of Vulnerability'. A higher score therefore represents a design that is considered to be more vulnerable to crime / deviancy. This can provide crucial insights and be utilised as a measurement of image, perceived crime and fear of crime, and also illuminate the perceived 'defensible space' qualities of each of the design typologies.

The research instrument was designed specifically to facilitate a more focused analysis of the predominantly untested concept of 'defensible space'. As such, seven questions were constructed to probe the perceptions of 'defensible space' and are listed below:

1. *Do you think that the residents are proud of their property?*
2. *Is it clear to you where the property boundaries lie?*
3. *Do you think that there is a neighbourhood watch scheme here?*
4. *Do you think that residents can recognise strangers here?*

5. *Would you feel noticed by residents here?*
6. *Does this street provide opportunities to hide for those who might behave in an unsocial or deviant manner?*
7. *If a crime was committed in this street and was noticed by residents, do you think they would be proactive and assist in anyway (i.e. phone the police or intervene)?*

When the responses to these questions are amalgamated, it is argued that they provide a useful indicator for measuring the perceptions of 'defensible space'. In terms of fear of crime, three questions were designed as direct measures:

8. *Would you fear for your personal safety here?*
9. *Would you prefer to avoid walking along this street given the choice?*
10. *Do you think you would feel safe walking in this street?*

The responses from these three questions when combined produce a fear level and can provide interesting insights into the fear of crime relating to each design type.

In terms of the perceived criminogenic capacity of the housing designs, the following questions were selected and collectively refer to the 'Crime/Deviancy Index'.

11. *Would you expect burglary to be common in this street?*
12. *Would you expect incidents of graffiti, vandalism or dereliction to occur here?*
13. *Would you expect noisy and troublesome teenagers here?*

In addition to the thirteen questions specifically designed to probe 'defensible space', crime/deviancy and fear of crime, the following questions were also included in the 'Absolute Hierarchy of Vulnerability' discussed above.

14. *Do you think these houses are privately owned by the residents?*
15. *Do you think these houses are rented by the residents?*
16. *Would you like to live here?*

17. Do you think that the police patrol this area on a regular basis?

Furthermore, a standalone question, relating to the siting of CCTV, was also presented to attempt to discover where respondents perceive such initiatives to be necessary.

18. Would CCTV reduce unsocial or deviant behaviour here?

It is argued, therefore, that significant policy implications, in a range of areas, will be revealed by adopting this design-specific approach to measuring perceptions of 'defensible space', fear of crime and crime and deviancy.

It is also recognised that the phrasing of a question to relate to the specific concepts of 'territoriality', 'surveillance' and 'image and milieu', is similarly problematic. However, these have received cautious deliberation and subsequent refinement following the three pilot studies.

8.6.3.2 The Environmental Stimuli

The environmental stimuli chosen to represent the various residential dwelling types is crucial to the research methodology, since the respondents' perceptions will be measured and based upon these images.

The use of photographs is, however, proposed for the research and considerable debate has taken place regarding the suitability of photographs as a substitute for actual landscape interactions. Some research (Zube, 1984; Uzzell, 1989 and Carles *et al*, 1992), maintains that information from other senses should be incorporated, if possible. However, others (Shuttleworth, 1980; Zube *et al.*, 1987 and Stewart *et al.,* 1984) endorse the use of photographs alone as valid and appropriate representations. Indeed, the inclusion of open-ended questions enquiring as to the imaginary sights, sounds, smells and feelings that respondents might perceive they would encounter is arguably a useful focality. Atkinson *et al.*, (1990) note that higher exposure times to photographs (familiarity) can result in higher ratings for attractiveness and this issue was addressed by standardising the exposure time for viewing each design typology.

In terms of the questions posed, Zedner (1997) notes how a typical crime survey might ask, "how safe do you feel walking in your neighbourhood alone at night?" (Zedner, p587). The author claims such phrasing can "elicit answers relating to a given neighbourhood, fear of the dark, respondents' feeling of weakness, or other non-crime-related, dangers" (Zedner, p587). The need to focus attention upon physical and social design aspects of the residential dwelling, therefore, necessitated the images being taken during daylight hours, rather than at night. Furthermore, photographic images were taken which avoided capturing the presence of any citizens, to avoid any possible prejudice. The presence of vehicles within the images is arguably justified by the socio-economic associations and stimuli that they may provide and the incidents of crime that may be perceived by their presence or indeed, by their absence. More crucially, perhaps, the images were photographed at the same time and day and the presence of vehicles was largely unavoidable in any case.

Scott and Canter (1997) conclude "the literature therefore suggests that photographs can be considered suitable simulations of real landscapes, although there are reservations about their use and ways of improving the standard of simulation" (Scott and Canter, p264). Hubbard (1996) studies interpretations of architectural projects and concurs, claiming that colour photographs "...have been successfully used as an environmental surrogate in a number of similar studies (e.g. Groat, 1982; Purcell and Nasar, 1992)" (Hubbard, p82).

A series of photographs were taken which represent the most prevalent housing types in the British city. The proximity of Cardiff, and the fact that it boasts all of the most common British housing designs, makes the Welsh capital city an ideal case study. These have been identified in Chapter 5 as terraced, semi-detached and detached housing, representing the single-family units, while low-rise/walk-up flats (3 -6 floors) and high-rise (7 or more floors) would represent multiple dwelling units. Further considerations also included the standardisation of certain criteria. Indeed, a study by Brown and Daniel (1987) highlighted the necessity to standardise time of day and weather conditions. The choice of scene was also a crucial issue. The complexities of the social and physical fabric are often not easily recognisable and as such careful selection and photography of housing design

and the *immediate* environs must be undertaken. Danford and Willems (1975) noted how the researcher may select scenes which contain properties of the environment which *they* consider to be important in extracting responses. Indeed, the five residential housing designs selected are presented in two distinct forms, each to specifically investigate the extent to which one particular aspect of the built environment affects perceptions of 'defensible space', crime/deviancy and fear of crime. A Chartered Surveyor with a detailed understanding of housing in Cardiff, provided assistance and expertise in this selection process.

In consideration of the persistent relationship between physical and social signs of disorder, discussed in Chapter 7, the five dwelling types were each represented by two images of polarised extremes of maintenance and upkeep. One version shows a specific design, which is well-maintained and in an attractive state of repair. The other presents a similar design, but which is poorly-maintained and is, perhaps, clearly run-down in appearance. The presence or absence of physical signs of disorder (which may also be social indicators) clearly warrants inclusion within this framework. The designs selected are illustrated in Figure 8.4 below, and a pull-out version (Appendix One) is provided to facilitate ease of viewing, while the reader considers the discussion and results presented in Chapters 9 to 13. This element will subsequently be utilised to enquire into the 'image' of the designs. Prior identification of the ten locations enabled the photographs to be taken on the same day and provide the same (or at least broadly similar) conditions in terms of weather and light.

This design-specific approach clearly incorporates Newman's concept of "image and milieu" and investigates this under-researched issue. In addition, the more fashionable and more-fully researched concepts of 'territoriality' and 'surveillance' and notions of crime/deviancy and fear of crime can also be evaluated using Questionnaire 3 of the adopted methodology (see Appendix Five). The concept of "geographical juxtaposition", however, remains outside the scope of this investigation for the reasons mentioned earlier.

8.6.3.3 The Sample Groups

Certain 'focus', 'elite' or 'key user groups' have been selected for investigation and

include convicted burglars, planning professionals, police officers and young adults (aged 18-25). It has been established that socio-economic, demographic and 'experiential' data requires collection and analysis (Questionnaire 1, Appendix Five). In addition, this research instrument contains a qualitative enquiry of five 'open-ended' questions (Questionnaire 2, Appendix Five), and finally, eighteen 'closed' questions requiring dichotomised 'yes / no' responses (Questionnaire 3, Appendix Five) to probe specific 'defensible space' elements, fear of crime and perceptions of crime/deviancy.

8.7 Validity and Reliability

The validity of the methodological approach was tested and refined in three pilot studies to ensure that the sample groups understood the questions and responded to the photographic stimuli in a systematic and reactive manner whereby the initial primary responses were gathered. The questions were refined at various stages by testing and verifying them with fellow researchers and senior academic staff. They were also peer-reviewed at a staff research seminar in the School. Furthermore, a review of the literature (in particular Chapters 3, 4 and 6) served to guide both the question selection and phrasing. The reliability of the response was demonstrated firstly, by the consistency of results across and within the sample groups and secondly, the quick-fire nature of the questionnaire design necessarily limited the time that was made available to misrepresent any information or to manufacture false responses. Furthermore, the unobtrusive and design-specific framework of the study did not require responses of a particularly controversial or politically sensitive nature. It is contended that the responses that were collected in the form of qualitative and quantitative data have both meaning and integrity and that they provide unique and measurable insights into the perceptions of the respective sample groups.

8.8 Summary

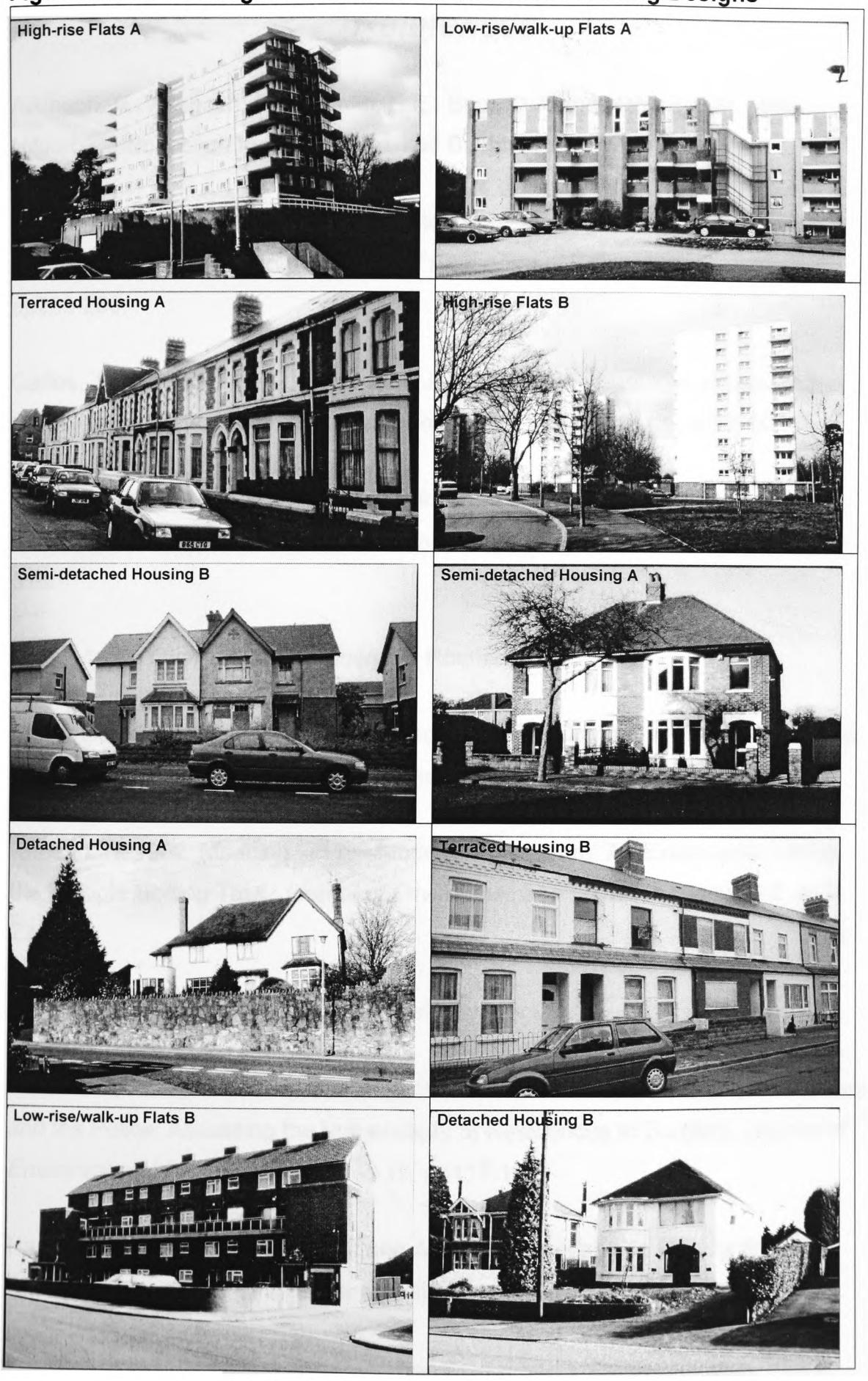
This chapter has discussed the various research methodologies available and argues that a visual representation of specific residential housing designs can form the stimulus for the proposed analysis of the fear of crime, crime and deviancy and

'defensible space' perceptions. The three questionnaires, compiled into one clear, simple and pragmatically designed booklet arguably provides the triangulation of data, to elicit an unique and illuminating perspective on the perception of crime associated with specific urban residential housing designs.

It is postulated that policy insights regarding the design of new-build housing, housing allocation policy and the allocation of police resources and crime prevention initiatives, may well emerge from such an unique and design-specific investigation into the perception of British housing and crime. A more systematic understanding of the criminogenic capacity of residential space is arguably provided, which suggests that the designers and practitioners of CPTED need to consider the subjective perception of crime, in addition to the 'objective' statistical approach which utilises recorded crime statistics, that is commonly espoused today. Further research regarding other housing types and investigating the perceptions of other key users of residential space may also be worthwhile pursuing at some future date. This approach may also warrant consideration for an analysis of commercial and industrial sites, retail outlets and recreational facilities.

The resultant 'subjective' insights of this approach can contribute to broadening our existing understanding, which is arguably rendered incomplete by the traditional reliance upon the more 'objective' nature of crime by utilising existing published socio-economic data and recorded crime statistics.

Figure 8.4. Images of Characteristic British Housing Designs



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Chapter 9

Data Analysis, Results and Discussion.

The Perceptions of Burglars.

9.0 Data Analysis

Chapter 8 discusses the methodological approaches adopted for the collection, analysis and utilisation of respondent data as the qualitative and quantitative primary sources to be utilised. This chapter, along with the following four chapters, analyses and interprets the data collected.

9.1 Respondent Data Analysis

Chapters 5, 6, 7 and 8 have established that certain types of respondent data require collection and analysis. In terms of gender and ethnicity the 'burglars' were all white males (n=10). In addition, six respondents were aged 18-25 years, while the remaining four were 26-33. Regarding marital status, all but one (n=9) were single and all (n=10) were unemployed, by definition, since they were incarcerated burglars. This entire group had experienced secondary school education. This data set promises interesting insights into the differences that might exist within the burglar sample group, and is also utilised in a comparative format in Chapter 13.

More central to the task at hand and the aims of the research are the background characteristics that directly influence the perception of residential housing and crime, as indicated in the chapters on housing, fear of crime and environmental psychology. Residential background and crime experience data were therefore considered to be of particular importance and relevance and, as such, receive detailed attention. The qualitative results are presented and discussed in section 9.2, while the quantitative data receives deliberation in section 9.3.

In terms of residential background, the majority of respondents stated that they had lived in semi-detached housing (n=7); half had lived in terraced and high-rise flats (n=5); a smaller number in low-rise/walk-up flats (n=3); and only one had ever resided in a detached property. It is emphasised that personal/individual residential experience may affect how housing designs are decoded.

The fear of crime remains a crucial aspect of this enquiry, and crime experience data has been collected to provide insight into how perceptions of crime may or

may not be influenced by this variable. Although the burglars themselves seemed somewhat surprised by this line of inquiry, they nevertheless provided interesting results. The data reveals that 50% (n=5) of the burglars interviewed had personally experienced crime within the last year, and that 60% (n=6), had experienced it before 1999. Furthermore, most of this group said that they personally knew others who had been the victims of crime in 1999 (n=8), and before 1999 (n=9). This data might, at first, appear surprising in that criminals/burglars are associated with being perpetrators of crime rather than victims. Such associations, however, may amount to prejudice, which serves to reinforce the negative 'image' of certain geographical areas. Indeed, housing allocation policy might well stand accused of concentrating such groups in specific areas, thereby increasing victimisation levels. This insight may prove increasingly stimulating when compared with other user groups. This data is presented in relation to the fear of crime in Table 9.3.4 in the quantitative section of this chapter.

9.2 Qualitative Data Analysis

As discussed in Chapter 8, five qualitative questions were asked in order to gather insights into the perceptions of burglars in relation to specific residential housing designs. These questions were concerned with the perceived image that was associated with each of the designs displayed, and the responses are presented and discussed below.

Although it was anticipated that this particular user group was unlikely to provide the most detailed and explicit qualitative data, it was nonetheless considered essential to attempt to gather such information, due to the unique character and insights of this sample group. The qualitative responses of burglars provides rare glimpses into their perceptions regarding the most common residential housing designs to be found in the British city today.

The qualitative approach seeks explicitly to enquire into the perceived 'image' associated with each design. As discussed in Chapter 2 and 3, this third element of Newman's 'Defensible Space' has largely been overlooked by subsequent researchers. Furthermore, as part of the decision-making process that an

opportunistic criminal undertakes, the 'perceived' image of the design may offer interesting insights into understanding criminogeneity. This may also be applicable to the less common 'professional' criminal, although such an enquiry is beyond the scope of this investigation.

This chapter focuses on analysing the most frequent, common, and potentially useful responses, derived from the burglars. The pull-out photographic section in (Appendix 1) is provided to enable the reader to inspect the respective designs as they are being discussed.

9.2.1 Image 1. 'High-rise Flats A'

Generally, it was perceived that the residents of this design were more likely to be employed (n=4) than unemployed (n=2) and that they were low-paid, or probably office workers. Socially acceptable and legal activities were predominantly seen to include; preparing to go to work/shop/school (n=5), with a wide variety of other 'everyday' activities also mentioned. In terms of socially unacceptable or illegal activities, the burglars agreed universally, that drug dealing could be prominent (n=10), along with car theft (n=6), and muggings and burglaries (both n=3).

"I would feel happy to commit crime here (i.e rob a car)" (Burglar 5).

Perceptions regarding feelings and emotions that might be felt walking in the area ranged from 'unsafe/wary/don't like it' (n=5), to 'safe/fine/like it' (n=3) while the suggested changes were dominated by 'demolish/rebuild it' (n=4).

"Smash it down and rebuild it" (Burglar 2)

The overall perception was a negative image of low-paid employment, high levels of crime and fear of crime. There was also a common desire to demolish the design, as the suggested method of improvement.

9.2.2 Image 2. 'Terraced Housing A'

The employed manual workers and students (n=6) that were believed to reside in the properties seen in this image, are generally engaged in socially acceptable

activities such as preparing for work/school/shopping (n=6). Further activities included children playing (n=2) and washing the car (n=2).

> *"People going to work, everyday life, bit of a struggle, could have the odd bad family" (Burglar 4).*

Unacceptable activities such as vehicle theft (n=5), drug dealing (n=3) and burglary (n=3) were also mentioned, although a general feeling of safety prevailed ('safe/fine/like it' n=7). Suggested improvements were wide-ranging ('paint', new doors/windows, a brighter colour scheme and CCTV (all n=2)). Overall, the perception was one of an employed community that was considered to be mildly criminogenic with relatively low levels of fear of crime. This image was perceived in positive terms, as predominantly safe, requiring only minor improvements.

9.2.3 Image 3. 'Semi-detached Housing B'

The predominantly employed (n=7) manual labourers were perceived to be engaged in socially acceptable activities, such as going to work/school/shopping (n=2), working on the house (n=2), walking (n=1) and gardening (n=1). Unacceptable activities might include burglary (n=3), drug dealing (n=3), handling/receiving stolen goods (n=2), vandalism (n=2) and 'squatting' (n=2). Four other criminal activities were also mentioned.

> *"People hanging around the empty house, doing drugs and drink and the like" (Burglar 6)*

Notions of feeling 'safe/fine/like it' (n=3) were marginally more prominent than those of 'unsafe, wary/don't like it' (n=2). Nine individual improvements were mentioned but this section was dominated by suggestions for 'renovation' (n=4).

> *"Do up the empty house" (Burglar 6)*

This design was generally regarded in decidedly negative terms. A wide range of crimes were perceived to occur here, although notions of fear were not dominant. However, the prevalence of 'renovation', as a suggested improvement, may reflect

the visible 'signs of decay' which are clearly evident in one of the properties present in the image.

9.2.4 Image 4. 'Detached Housing A'

There was unanimous agreement upon the employed status of these residents (n=10), who were considered to be judges, doctors, barristers or businessmen.

"Employed; high up the ladder in society" (Burglar 10)

Socially acceptable activities were wide-ranging and included walking the dog (n=4). Unacceptable or illegal activities perceived, were burglary (n=5), 'none' (n=4) and three others. In terms of feelings and emotions, the burglars provided interesting responses which can be categorised as 'admiration for the house and its potential rewards' (n=5).

"Good for 'earning' down here" (Burglar 10)

In addition, feeling 'no emotion' was a common response ('none', n=4). For suggested improvements, the majority agreed 'none' were necessary (n=9), although CCTV was another suggestion (n=2). Generally speaking, this image was decoded as being the property of high status professional residents. The design was regarded in a highly positive manner, and although some crime was expected, low levels of fear of crime were perceived and the design was considered to warrant no necessary improvement.

9.2.5 Image 5. 'Low-rise/walk-up Flats B'

In contrast, the majority of respondents considered the residents associated with this design to be unemployed (n=8), and, if they were employed, it was as cleaners or construction workers. Some commonplace socially acceptable activities were in evidence; children playing (n=2), washing the car (n=2) and chatting (n=2). Unacceptable activities included drug dealing (n=5) and six other examples of crime.

"Drug dealing, ram-raiders, crack-houses and whoring" (Burglar 10)

"That's a bit dodgy" (Burglar 2)

In terms of safety, over twice as many said they would feel 'unsafe/wary/not like it' (n=5) as those who felt 'safe/fine/like it' (n=2). Suggested changes were dominated by demolition (n=4) and 'more parks' (n=2), although there were five other suggestions ranging from redecoration and 'brighten the colour scheme', to investment.

"Knock the lot down" (Burglar 6)

High levels of fear of crime and crime itself, and the common suggestion to demolish, as an improvement, indicates that its image was highly negative, and that the design was potentially the most fear-promoting, if not the most criminogenic of all.

9.2.6 Image 6. 'Low-rise/walk-up Flats A'

Three times as many respondents considered the residents to be employed (n=6), rather than unemployed (n=2), and examples cited included teachers, doctors and salesmen. Gardening featured as a socially acceptable activity (n=2), along with seven other activities, such as walking the dog and chatting. Unacceptable activities included 'none' (n=4), drug dealing (n=3), and eight other examples ranging from urinating in the street, excessive noise, violence and vandalism. In terms of feelings or emotions, some mentioned 'none' (n=4), while those that did express an opinion were dominated by those who felt 'safe/fine/like it' (n=3), rather than 'unsafe/wary/don't like it' (n=1).

"Would be ok...looks fine to me" (Burglar 6)

Suggested changes were dominated by 'knock it down' (n=3) and 'none' (n=3). Generally, this design was perceived as possessing wide-ranging criminogenic potential but relatively low levels of fear.

9.2.7 Image 7. 'High-rise Flats B'.

Regarding the status of employment of these residents, some (n=4) agreed that they were unemployed, while a significant number also believed the residents to be both employed and unemployed (n=4). Socially acceptable activities included walking the dog (n=2), going to work (n=2) and three other examples. Socially unacceptable and illegal activities were dominated by a wide range of criminal activities. Drug dealing (n=6), 'all crime' (n=2), violence (n=2) and driving illegally (n=2) were the major examples.

"Everything under the sun – drugs to robbery." (Burglar 4)

Not surprisingly, feeling 'unsafe/wary/not like it' were dominant (n=3) over feelings of safety (n=1).

"I would be very frightened" (Burglar 6)

Suggested changes included more parks (n=1), double- glazing (n=1), CCTV (n=1) and speed bumps (n=1). In summary, this design was perceived as being highly criminogenic, engendering notions of fear and in need of many suggested improvements. Demolition, however, was not one such suggestion, perhaps since it was reasonably clear from the image that improvements to the exterior of the property had already been initiated, upgrading the image marginally.

9.2.8 Image 8. 'Semi-detached Housing A'.

Overwhelming agreement existed upon the perceived employed status of these residents (n=7), who were believed to be office workers (n=1) and factory workers (n=1). Socially acceptable activities cited included gardening (n=4), preparing to go to work/school/shopping (n=3) and five other examples. Illegal, socially unacceptable activities included burglary (n=3) and receiving/selling stolen goods (n=3).

"People selling knocked-off stuff...clothes" (Burglar 4)

Perceived emotions, while walking in the area included 'none' (n=5), and references to the possible 'rewards' (n=2) that might be concealed within the properties in the image.

"Cor, look at that system and T.V." (Burglar 9)

Concern for safety was mentioned in only one instance. To reiterate the relative satisfaction with this image, the suggested changes were dominated by 'none' (n=7). In general, relatively low levels of crime and fear of crime were perceived to have existed and little in the way of improvements were proposed.

9.2.9 Image 9. 'Terraced Housing B'.

The residents were generally perceived to be a mixture of both the employed and unemployed (n=4), while equal numbers regarded the residents as solely employed (n=2) and unemployed (n=2) people. The nature of employment was manual or clerical work. Car washing (n=5) was the favoured social activity along with gossiping (n=2). Prominent socially unacceptable activities included car theft (n=3), drug dealing (n=2) and vandalism (n=2). A further six examples were cited. Feeling unsafe/wary/not like it (n=4) and 'none' (n=4) dominated over feelings of safety (n=1).

"What a shit-hole" (Burglar 5)

Changes suggested were dominated by renovate/rebuild (n=6).

"Do up the empty house" (Burglar 6).

Generally, notions of crime, fear of crime and solutions to renovate and rebuild the area, leave this image with negative overtones. Again, the visible 'signs of decay' in the image appear to influence decoding, particularly when responses are compared to 'Terraced Housing A' (see section 9.2.2).

9.2.10 Image 10. 'Detached Housing B'.

All respondents agreed on the employment status of the residents (n=10), who, it was considered, either owned their own businesses or were solicitors, judges or sales executives. Cleaning/working on the house (n=3), gardening (n=2) and five other examples were socially acceptable activities that were cited. One phrase neatly summarises their thoughts concerning these activities:

> *"Everyday life and more of an expensive lifestyle" (Burglar 5).*

Socially unacceptable activities cited were 'none' (n=3), and burglary (n=3), along with seven others including 'ringing' cars, handling stolen goods and drug dealing. Feelings and emotions while walking in the area were dominated by admiration for the house and the potential rewards that it may offer (n=6).

> *"I'm having their valuables" (Burglar 3).*
> *"Pure victims (where's my car)" (Burglar 10).*

Finally, dominating the suggested changes for this design was the phrase 'none' (n=5), implying satisfaction and approval. Overall, this design, although regarded as mildly criminogenic, was not associated with fear. Rather, it was admired for its status and potential rewards, and no changes were suggested. The residents were considered rich, powerful and "pure victims".

9.2.11 Overview

In general, the ten images can be divided into two groups in terms of how they were perceived. Although the burglars considered crime to be relatively common in all designs, a proportion were engendered with what the research found to be more 'positive' ideas, of employment, safety, and few suggested improvements. There is obviously some variation within each group, which included:

Image 2 - Terraced Housing A
Image 4 - Detached Housing A
Image 6 - Low-rise/walk-up Flats A
Image 8 - Semi-detached Housing A
Image 10 - Detached Housing B

Conversely, the second group was perceived in terms that may be considered to represent a more 'negative' image. This group includes:

Image 1 - High-rise Flats A
Image 3 - Semi-detached Housing B
Image 5 - Low-rise/walk-up Flats B
Image 7 - High-rise Flats B
Image 9 -Terraced Housing B

From the qualitative responses, it is apparent that the physical images are decoded in a far more complex manner than by just using design criteria. It is interesting to note that respondents appeared to be more able to articulate comments relating to socially unacceptable and illegal activities, than they were for socially and legally acceptable behaviour. Perhaps this can be explained by the notion that it is easier and more common to observe the negative potential in a situation/person/place, than it is to notice the positive.

The 'better-maintained' version of each design appears to be perceived as safer and less criminogenic. However, there are strong associations attached to each design type. The socio-economic associations that have clearly been made in relation to the photographic representations, provides significant insights into how the residential environment is decoded. Indeed, further analysis of the quantitative data may well lend further support to Logan's (1978) notion of the 'stratification of place', whereby "place is ... a partially autonomous dimension of stratification in the same sense as the more familiar dimensions of class and status" (Logan, p408). This will receive further deliberation in the conclusions in Chapter 14.

9.3 Quantitative Data Analysis

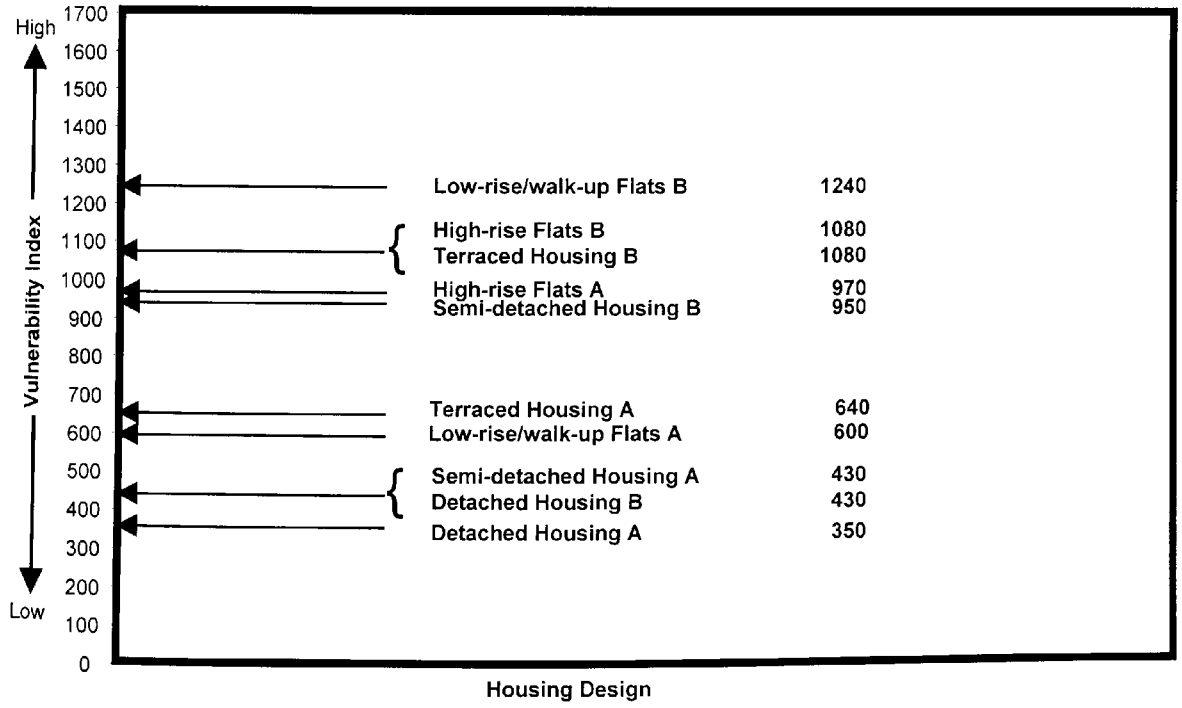
Ten convicted burglars were asked a series of eighteen questions (see Chapter 8, section 8.6.3.1), in relation to the ten images of stereotypical British housing designs. Each of the respective bar charts is presented hierarchically to enable clear identification of patterns and trends, therefore the order in which housing type appears may change from figure to figure.

9.3.1 The 'Absolute Hierarchy of Vulnerability'

Analysis of the data reveals that, in terms of the 'Absolute Hierarchy of Vulnerability', the burglars divided the ten designs into two distinct groups in terms of their total scores. Figure 9.3.1 below illustrates this point.

Table 9.3.1 reveals that the aggregated data provided by this group would seem to support Newman's ideas. The 'run-down' 'Low-rise/walk-up Flats B' are clearly perceived as possessing a far greater criminogenic capacity than all the other designs, while both detached designs were considered as the least vulnerable. Indeed, the multiple dwelling units (MDUs) were perceived as generally, far more criminogenic than single dwelling units (SDUs). When combined, the 'High-rise Flats 'A' and 'B' (1080+970 =2050/3400) were considered to be significantly more vulnerable than 'Detached Housing designs 'A' and 'B' (350+430=780/3400). The relatively high vulnerability score of 'Semi-detached B', may be explained by the clear and visible 'signs of decay' and dereliction in the image. The significance of 'signs of decay' is discussed later in this chapter.

Figure 9.3.1 The 'Absolute Hierarchy of Vulnerability'



Note: Ten burglars answered 17 questions, which were scored, expressed as a % and aggregated

Overall, the 'Absolute Hierarchy of Vulnerability' reveals that poorly-maintained designs are perceived to be more criminogenic than similar designs in a better

condition, clearly supporting Wilson and Kelling's 'Broken Windows' theory (1982). This is theory is briefly discussed in section 1.1.5. In addition, when grouped by design type, the ranking for criminogenic potential is shown in Table 9.3.1.

Table 9.3.1 Housing Design and Vulnerability

	Housing Design	Score (out of 3400)
Most criminogenic design ↑	High-rise Flats A and B	2050
	Low-rise/walk-up Flats A and B	1840
	Terraced Housing A and B	1720
	Semi-detached Housing A and B	1380
Least criminogenic design ↓	Detached Housing A and B	780

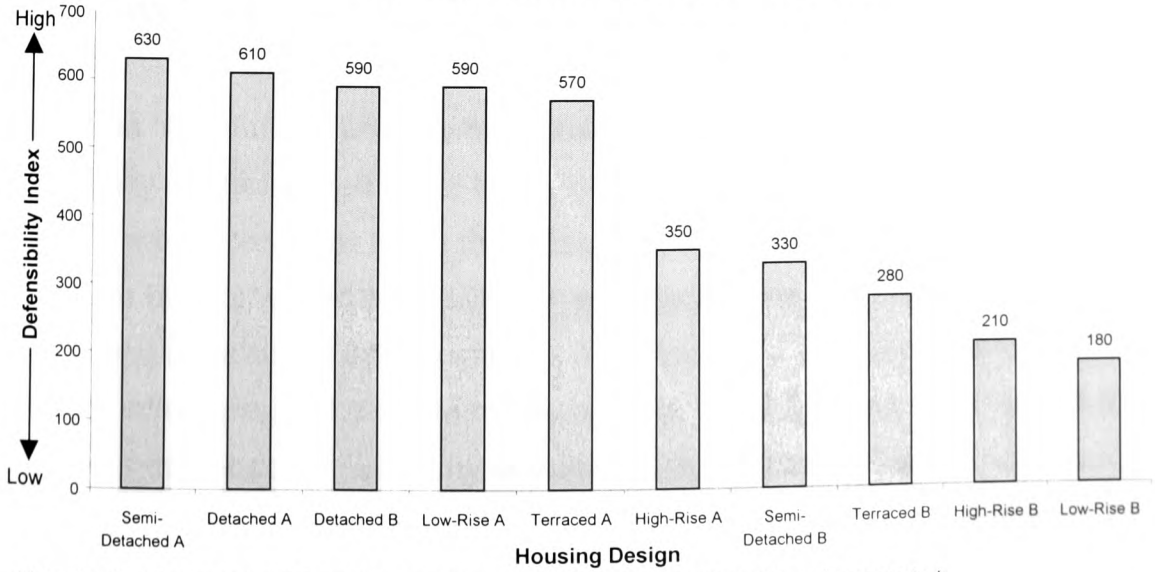
Note: The scores for each design type were aggregated to produce a maximum score of 3,400

In *'Defensible Space'* (1973), Newman was highly critical of high-rise and low-rise/ walk-up flats, claiming that such designs contain elements that might encourage criminal activity, rather than discouraging it. A more detailed analysis of the data can provide some insights into perceptions of 'defensible space'.

9.3.2 Perceptions of Defensible Space

Figure 9.3.2 below, illustrates the perceptions of convicted burglars regarding 'defensible space'.

Figure 9.3.2 Perceptions of Defensible Space



Note: Ten burglars answered 7 questions, which were scored, expressed as a % and aggregated

The well-maintained image of 'Semi-detached Housing A' is clearly perceived as the most 'defensible' design with a rating of 630 out of 700. 'Detached Housing A' was also perceived as being highly defensible (610/700). 'Detached Housing B', although of a similarly well-kept condition, was somewhat smaller, with no perimeter wall, nevertheless, this image was also perceived as highly 'defensible' with a score of 590. Such data supports Newman's ideas, however, the 'Low-rise/walk-up Flats A' scored 590 and was therefore perceived to possess a relatively high level of defensibility. According to Defensible Space theory, the balconies and internal stairways *should* reduce the level of defensibility, but for the burglars, this seems not to be the case. Perhaps the perceived 'private' nature of the design and the neat, well-maintained image are possible explanations for this. Crucially, the 'Low-rise/walk-up Flats A' were perceived as being significantly more defensible than 'Low-rise/walk-up Flats B', with a lower standard of maintenance, and was considered the poorest, in terms of 'defensible space'. One consistent point of interest is that for the designs with visible signs of decay ('Low-rise/walk-up Flats B', 'Semi-detached Housing B' and 'Terraced Housing B'), the better-quality version of each design was considered as both more defensible and less criminogenic than its more poorly maintained counterpart.

The well-maintained 'Terraced Housing A' scored 570 and is also perceived as a highly defensible design type. In terms of housing high densities of people, such a design might warrant detailed consideration. However, the poor score of the image 'Terraced Housing B' (280), reiterates the highly complex nature of attempting to evaluate elements of physical design. Again, Wilson and Kelling's 'Broken Windows' thesis (1982) is reinforced.

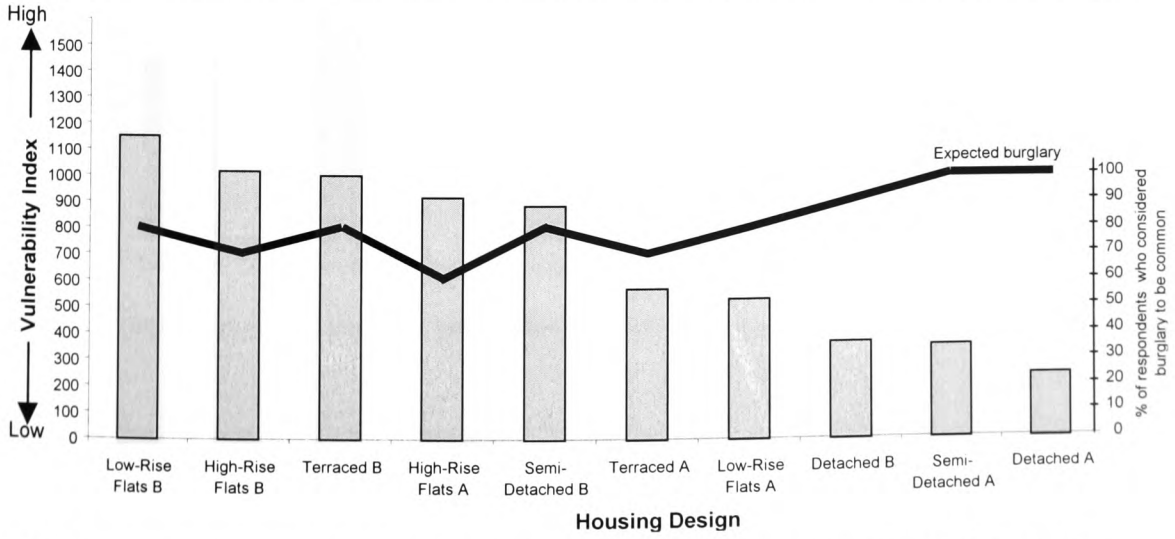
9.3.3 The 'Absolute Hierarchy of Vulnerability' and 'Expected Burglary'

As already discussed, reference to Figure 9.3.1 reveals that the detached housing designs are perceived as being the safest and most defensible in terms of the 'Absolute Hierarchy of Vulnerability'. They engender the least fear (see Figure 9.3.5), and are also the design which is most preferred in terms of where respondents expressed a desire to live (see Table 9.3.2). However, Figure 9.3.3 illustrates the 'Absolute Hierarchy of Vulnerability', but introduces an additional dimension to represent the level of anticipated burglary for each design type. This is represented as a percentage and provides further insights into the perceptions

of this intriguing sample group. Such findings suggest that yet further considerations are required to fully understand the intricacies of how 'defensible space' is viewed and interpreted by burglars.

What is interesting is that firstly, at least 60% of the burglars considered burglary to be commonplace in all designs. Across all designs, burglary was expected to occur at an average rate of 79%. This might be related to the belief, prior to interview, that they would be asked questions specifically about burglary or that, as burglars, they *would* attempt such a crime, given the opportunity. Secondly, the crime of burglary was considered to be more prevalent in the three designs graded as less vulnerable in the 'Absolute Hierarchy of Vulnerability'. These were 'Detached Housing A', 'Detached Housing B' and 'Semi-detached Housing A' (100%). Burglary was also seen as commonplace in 'Semi-detached Housing B', 'Terraced Housing B', 'Low-rise/walk-up Flats B' and 'Low-rise/walk-up Flats A' (80%). The first three of these designs are neglected properties in a derelict state with clear and visible signs of decay. An intricate relationship between potential rewards and visible signs of decay seems to be in operation. As opportunistic burglars, the 'opportunity' that was perceived to be presented by properties with visible signs of decay, may outweigh the lack of rewards offered. Professional burglars may well differ in this regard. The notions of potential reward and of opportunity seem to be important considerations in the perceptions of burglars, particularly for detached properties 'A' and 'B'.

Figure 9.3.3 The 'Absolute Hierarchy of Vulnerability' and Expected Burglary



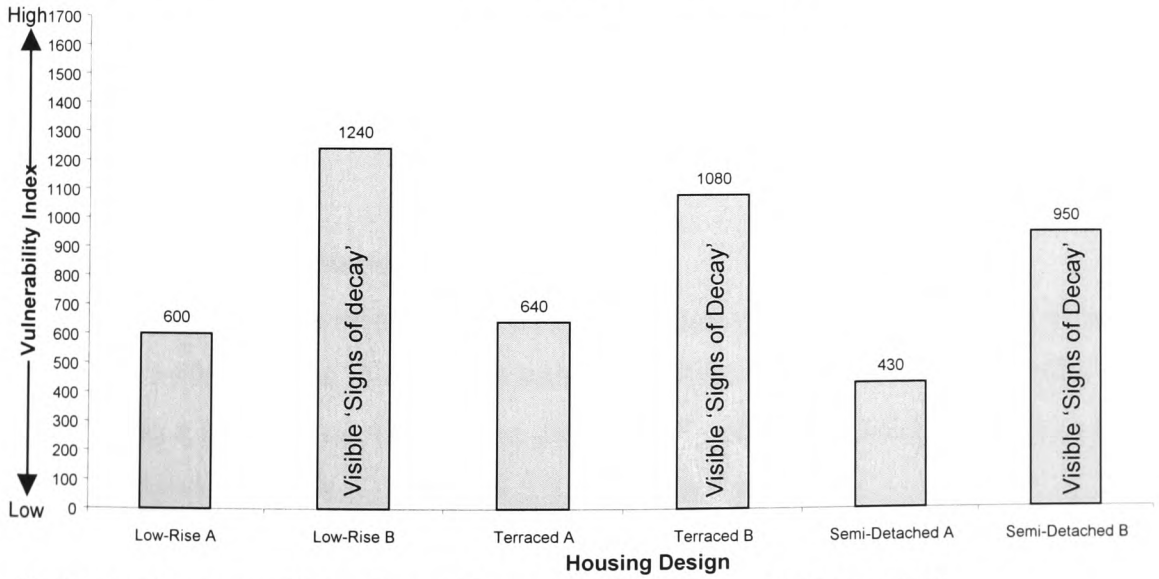
Note: Ten burglars answered 16 questions, which were scored, expressed as a % and aggregated. The black line represents responses to a separate question and superimposes 'expected burglary' levels onto each design.

9.3.4 Signs of Decay and Comparing Design 'A' with Design 'B'

Three of the ten images selected for this research deliberately contain visible 'signs of decay', such as boarded-up windows or graffiti, that are clearly visible to the respondent viewing the images. The comparison of such designs with their well-maintained counterparts provides interesting viewing.

The poor quality 'Semi-detached Housing B' and 'Low-rise/walk-up Flats B' are clearly perceived as being more vulnerable to crime than their better-maintained examples. 'Terraced Housing B' is also considered to be substantially more vulnerable than 'Terraced Housing A' which is clearly well-maintained. Reference to Figure 9.3.1, the 'Absolute Hierarchy of Vulnerability', demonstrates that all five of the less well-maintained examples of each design were considered as more criminogenic than their well-maintained counterparts. It appears that various aspects of 'defensible space' have been supported by the data, but crucial modifications are necessary, particularly with regard to the condition and level of maintenance of each housing design.

Figure 9.3.4 **Visible Signs of Decay**



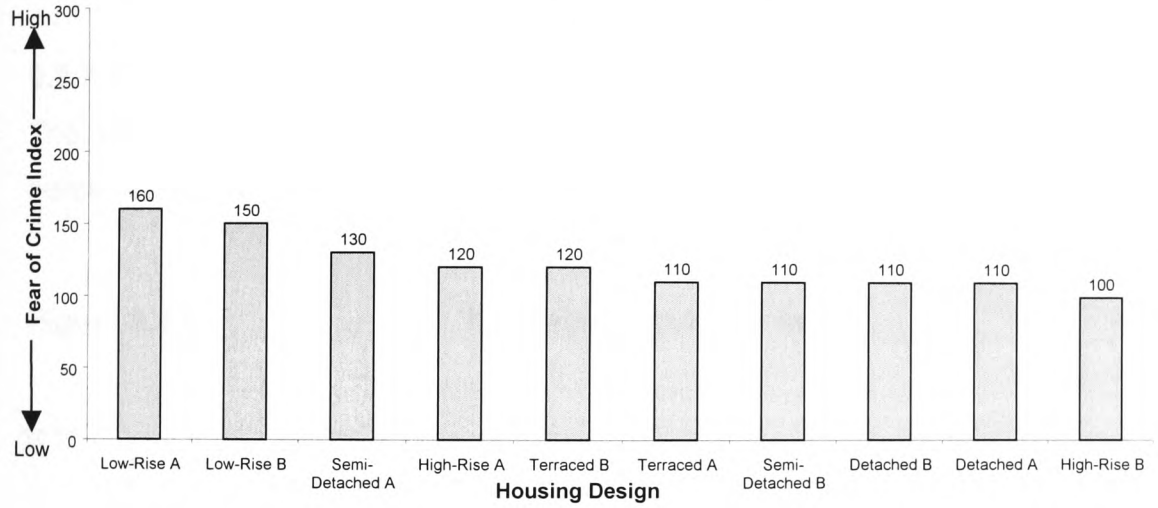
Note: Ten burglars answered 17 questions, which were scored, expressed as a % and aggregated.

9.3.5 Fear of Crime and Design

Figure 9.3.5 provides a graphical representation of the three questions asked, which focused on the fear of crime (see Chapter 8, section 8.6.3.1).

Fear of crime appears to be relatively low for the burglars with a total fear level of 1220/3000 across all ten designs, which equates to an average group fear level of 41%. Such low levels of fear may be explained to some extent, by the fact that the group were young males, who, according to many studies (Hale, 1996; Goodey, 1997; Mirrlees-Black *et al.*, 1998), are commonly less fearful. In general, MDU's seem to engender more fear than SDU's, providing further support for Newman's position (Newman, 1973; Newman and Franck, 1980, 1982). However, the 'High-rise Flats B' had the lowest levels of perceived fear, possibly explained by the signs of recent renovation and improvement in the image.

Figure 9.3.5 **The Fear of Crime**



Note: Ten burglars answered 3 questions, which were scored, expressed as a % and aggregated.

9.3.6 Residential Preferences

The cohort of burglars interviewed possess a strong aversion to wanting to live in 'Low-rise/walk-up Flats B' and both versions of high-rise flats, with only 10% expressing a preference. Half of the group (50%) said they would like to live in 'Low-rise/walk-up Flats A'. Table 9.3.2 provides a summary.

There appears to be a clear link between 'preference' and 'liking', and the perceived safety of the designs, as can be observed when comparing the 'Absolute Hierarchy of Vulnerability' (Figure 9.3.1) with the data presented in Table 9.3.2.

Table 9.3.2 **Residential Preferences**

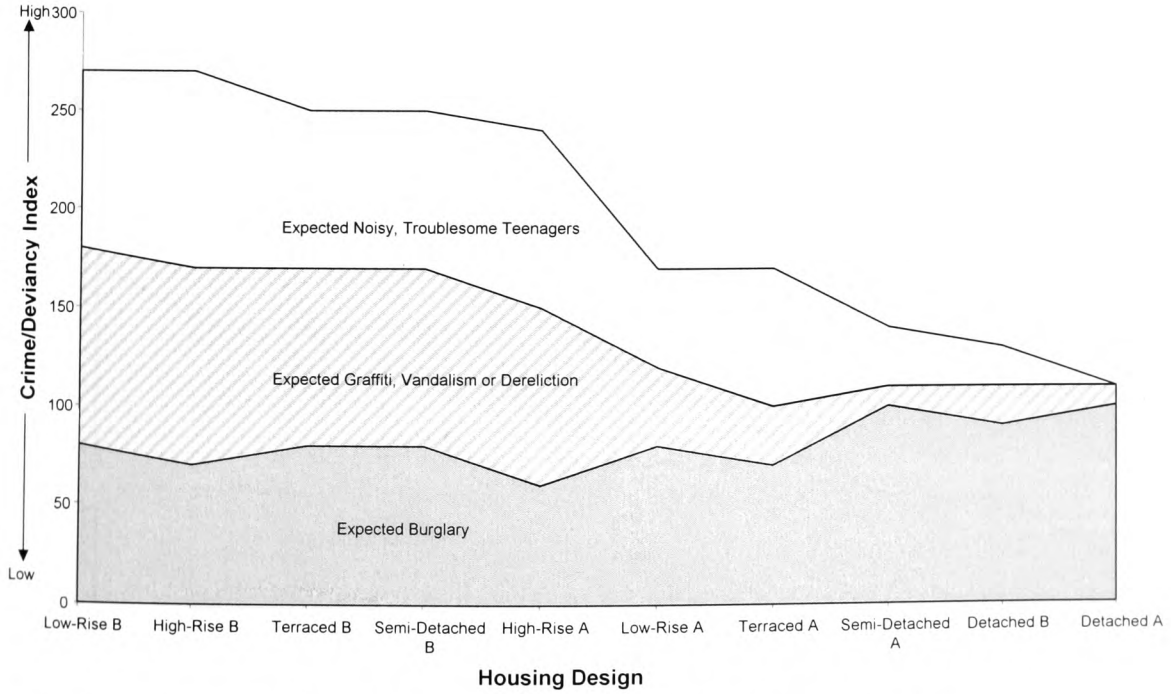
Image	% who said they would like to live here
Low-rise/walk-up flats B	10
High-rise flats B	10
High-rise flats A	10
Terraced Housing B	30
Low-rise/walk-up flats A	50
Terraced Housing A	50
Semi-detached Housing B	50
Semi-detached Housing A	100
Detached Housing B	100
Detached Housing A	100

Note: Ten burglars answered one question, which was scored and expressed as a %.

9.3.7 The Crime/Deviancy Index

The responses from three questions were combined to provide an insight into the perceived criminogenic capacity of each design.

Figure 9.3.6 **The Crime/Deviancy Index**



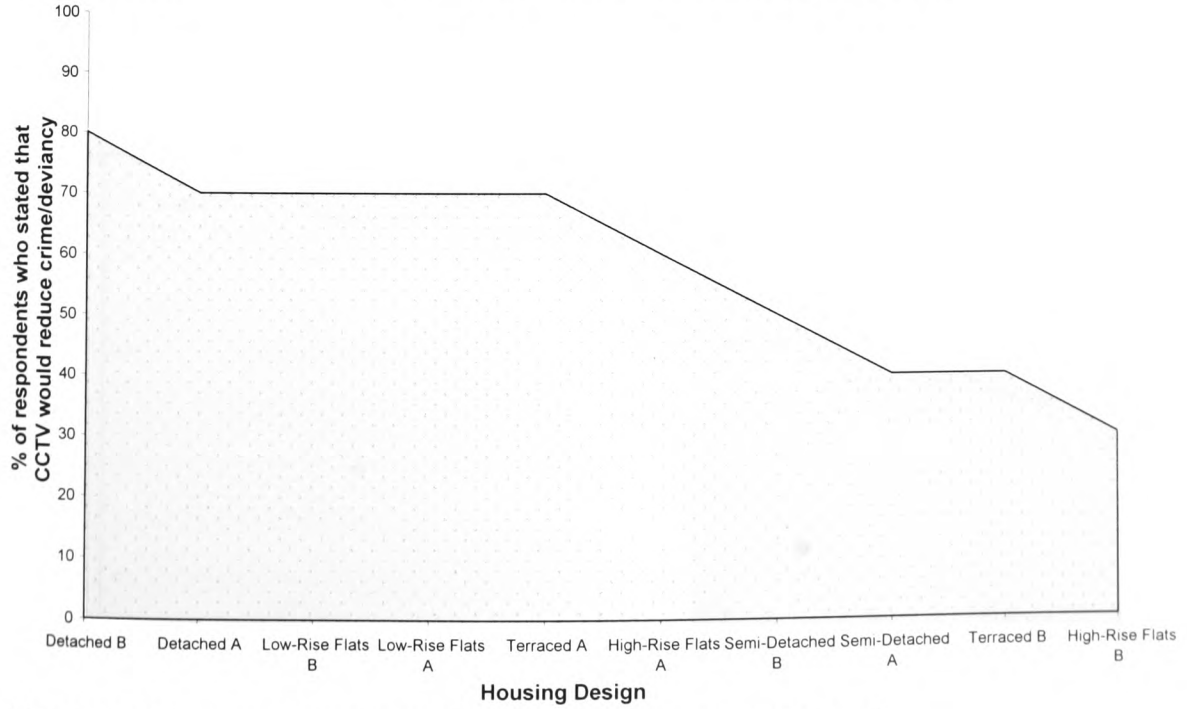
Note: Ten burglars answered 3 questions, which were scored, expressed as a % and aggregated.

There appears to be a clear overall pattern which closely matches both the 'Absolute Hierarchy of Vulnerability' and the trends found in the qualitative analysis. It is also apparent that 'expected burglary' is perceived to be higher in the five designs regarded as most defensible in terms of the 'Absolute Hierarchy of Vulnerability'. The potential rewards that were clearly anticipated in the qualitative responses, is a possible explanation. 'Expected noisy, troublesome teenagers' are perceived to exist at high levels in the five most vulnerable designs, and perceptions fall sharply as the designs become safer. 'Expected graffiti, vandalism and dereliction' follows a similar pattern, yet levels out for the three least vulnerable designs. Clearly, socio-economic associations are influencing the perceptions of this group.

9.3.8 The Perceived Effectiveness of CCTV

There appears to be some limited agreement concerning the perceived effectiveness of CCTV in reducing crime on a design-by-design basis. Responses ranged from 30% for 'High-rise Flats B', to 80% for 'Detached Housing B' and 70% of respondents anticipated that crime would be reduced in four of the images presented ('Low-rise/walk-up flats B', 'Terraced Housing A', 'Low-rise/walk-up Flats A' and 'Detached Housing A').

Figure 9.3.7 The Perceived Effectiveness of CCTV



Note: Ten burglars answered 1 question on CCTV, which was scored and expressed as a %.

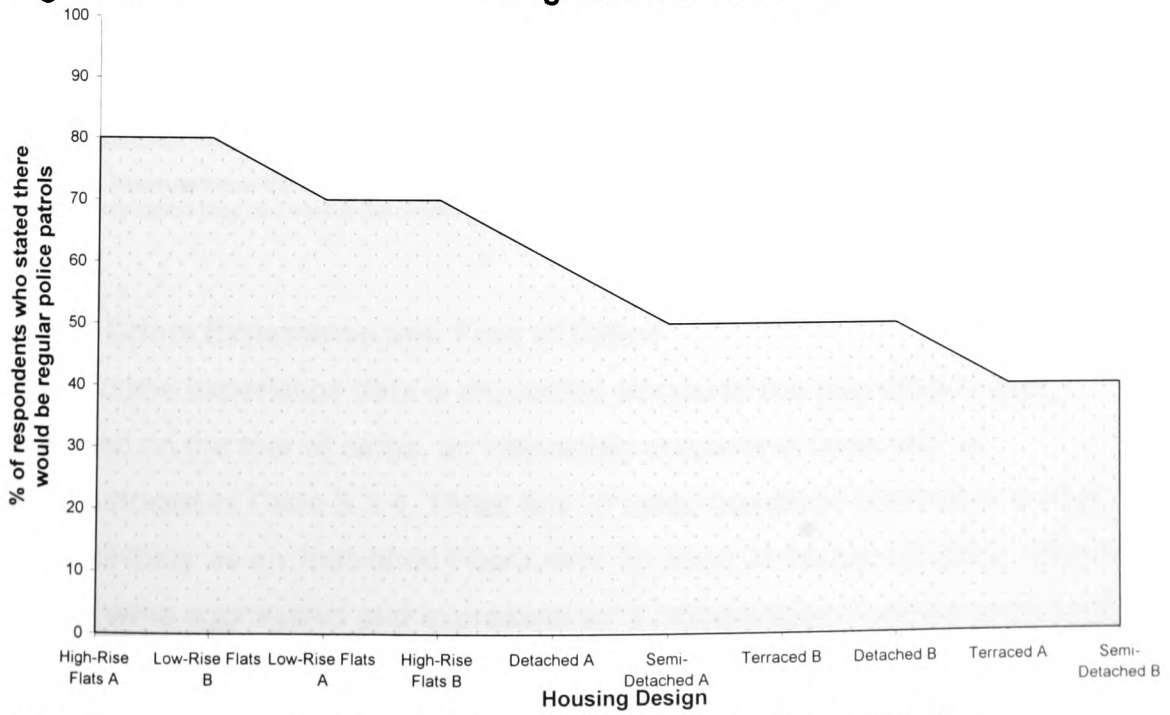
However, across all ten designs, the ten burglars exhibited a total score of 580/1000. This signifies that most of the burglars (58%) considered that CCTV would reduce crime across all the design typologies. Significantly, the CCTV responses do not overtly reflect the 'Absolute Hierarchy of Vulnerability'.

The installation of CCTV in the less vulnerable 'Detached Housing A' and 'B' (70% and 80%) was regarded as being more effective than in 'High-rise Flats B' (30%), or 'Terraced Housing B' (40%). Indeed, as can been seen in Figure 9.3.7, no straightforward pattern is discernible

9.3.9 Police Patrols

No easily recognisable pattern is evident across the different designs, however, a total of 590/1000 (59%) believed that police would patrol regularly across all ten areas. There was no distinction made as to whether the patrols were vehicular or on foot. Regular police patrols were perceived to take place predominantly for the more vulnerable designs, such as the MDUs. For the burglars, the presence of police patrols in the area did not seem generally, to be overly influential or effective, since higher crime/deviancy levels were clearly expected in the MDUs, (Figure 9.3.6) despite the perceived existence of police patrols, as presented in Figure 9.3.8.

Figure 9.3.8 **Regular Police Patrols**



Note: Ten burglars answered 1 question on police patrols, which was scored and expressed as a %.

9.3.10 Residential Experience and the 'Absolute Hierarchy of Vulnerability'

Table 9.3.3 reveals how residential background may have influenced the perception of each image. It appears that in terms of vulnerability, residential background for the burglars does not significantly affect their overall perception of each design. This may be explained to some extent by their greater awareness of housing designs that they may have gained while searching for potential targets.

Table 9.3.3

Residential Experience and the 'Absolute Hierarchy of Vulnerability'

		Hierarchy of Vulnerability score for Burglars who stated they ***had*** resided in such designs	Hierarchy of Vulnerability score for Burglars who stated they ***had not*** resided in such designs
Terraced	A	680	380
	B	1120	980
	Average	**900**	**680**
Semi-Detached	A	286	434
	B	943	867
	Average	**615**	**650**
Detached	A	300	380
	B	300	460
	Average	**300**	**420**
Low-rise/ Walk-up flats	A	534	529
	B	1300	1271
	Average	**917**	**900**
High-rise flats	A	980	980
	B	1080	920
	Average	**1030**	**950**

Note: The 'Absolute Hierarchy of Vulnerability' perceived by each respondent was calculated and presented in terms of whether they stated they had lived in the design type or not.

9.3.11 Crime Experience and Fear of Crime

When crime experience data is presented alongside the quantitative data collected on the fear of crime, an interesting outcome is observed, as demonstrated in Table 9.3.4. Three fear of crime questions generated a total score of thirty as an 'Individual Fear Level' for each of the ten burglars. These ten scores were aggregated and expressed as a percentage to indicate the average 'Group Fear Level' for the respective groups.

Table 9.3.4 Crime Experience and Fear of Crime

Those who were victims of crime in 1999	
Burglar Number	Individual Fear Level (maximum of 30)
2	4
3	6
4	7
5	13
6	9
(No. of respondents) 5 x 3 (no. of questions)	39/150
Group Fear Level, expressed as a %	**26 %**

Those who were *not* victims of crime in 1999	
Burglar Number	Individual Fear Level (maximum of 30)
1	1
7	8
8	1
9	9
10	2
(No. of respondents) 5 x 3 (no. of questions)	21/150
Group Fear Level, expressed as a %	**14 %**

Clearly, those who were victims of crime in 1999 were considerably more fearful than those who had not recently experienced crime as a victim, as might be anticipated. The fear level for those who were victims of crime before 1999 was 25%, contrasting with those that had not, where the level was only 17%. For those who knew people who had been victims of crime in 1999, the fear level was 19%, and surprisingly, for those who did not, it was 23%. Finally, in the case of those who knew people who had been victims of crime before 1999, the fear level was 22%, but only 3% for those who had not. Generally, it can be observed that those who had experienced crime in the recent past were more fearful than those that had not. Knowledge of people who had experienced crime in the past reveals the same overall trend when the data from both questions are combined. A fear level of 20.5% is apparent, against only 13% for those who did not know anyone who had been the victim of crime in the recent past.

9.3.12 Summary

It is apparent from both the qualitative and quantitative data analysis that the ten images of commonplace British housing designs are perceived in a highly complex and intricate manner. Physical design elements clearly transmit social messages and associations that contribute significantly to the overall understanding of the design. In terms of Newman's theory of 'Defensible Space', the perceptions of low-rise/walk-up flats and high-rise flats confirm that many of his ideas are relevant in the British context. The 'Absolute Hierarchy of Vulnerability' has provided a most useful scale for the gradation of housing designs and promises interesting comparative analyses with the other unique sample groups. The appearance of 'visible signs of decay' in selected images has been shown to be a powerful influence upon perceptions and Newman's third concept of 'image and milieu' is supported in addition to the findings of Wilson and Kelling (1982) and Kelling and Coles (1996).

A clear and distinct scale appears to exist with regard to how each image is perceived by this cohort of burglars. The perceived 'defensible space' qualities of 'Terraced Housing A' suggest this design warrants further consideration. Indeed, Steventon (1996) has argued that this design has rarely been considered as a 'defensible space' model.

This scale can be utilised to inform the design of future housing developments and the maintenance and management of residential property. In the light of the campaign for improved design (DETR, 1999) and the projected future household needs (DOE, 1995) these findings may prove useful. Furthermore, the powerful influence of perceptions in the stigmatisation of housing estates has been revealed (Social Exclusion Unit, 1998).

These findings suggests that perceptions are crucial to 'defensible space' theory, and support recent research in this regard (Tijerino, 1998; Ham-Rowbottom *et al.*, 1999). A 'Stratification of Place' (Logan, 1978) has also emerged, whereby the ten designs were viewed in terms of a clear and distinct hierarchy.

This chapter has discussed the perceptions of those who might be seen to exploit or 'abuse' space. How these results compare with those who more legitimately

'use' space, as well as those who 'design', 'manage' and 'police' it, will arguably contribute further, towards understanding the criminogenic capacity of urban residential space.

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Chapter 10

Data Analysis, Results and Discussion.
The Perceptions of Planning Professionals.

10.0 Data Analysis

This chapter analyses and interprets the data collected from the planning professionals.

10.1 Respondent Data Analysis

In terms of ethnicity, the planning professionals interviewed were predominantly white (n=9) and were mixed with regard to gender (males, n=4 and females, n=6). Three respondents were aged 42-49, and there were two respondents in each of the categories 26-33, 34-41 and 50-57. One remaining respondent was aged 18-25 years. Regarding marital status, the majority (n=7) were married, two were single and one was divorced. All were employed as planning professionals in income groups of over £30,001 (n=4), £20,001-30,000 (n=3), 15,001-20,000 (n=2) and £10,001-15,000 (n=1). This entire group had attended University and/or obtained professional qualifications.

Regarding residential background, the majority of respondents stated that they had lived in terraced housing (n=9) and a large proportion had also resided in semi-detached housing (n=7) and in detached housing (n=7). A smaller number had lived in houses that had been converted to flats (n=3) and in low-rise/walk-up flats (n=2), however, none had resided in high-rise flats. It is argued that personal/individual experience will affect how housing designs are decoded.

Crime experience data reveals that a minority of the planning professionals (n=3) interviewed had personally experienced crime within the last year, and that many more (n=8), had experienced it prior to 1999. In addition, most of this group said that they personally knew others who had been the victim of crime in 1999 (n=8), and universally, before 1999 (n=10). This data is analysed in relation to the fear of crime in Table 10.3.4 in the quantitative section of this chapter.

10.2 Qualitative Data Analysis

The qualitative responses of the planning professionals provides interesting insights into their perceptions regarding the most common British housing designs

and are discussed below. Comparisons between sample groups and a composite perspective receive detailed deliberation in Chapter 13.

10.2.1 Image 1. 'High-Rise Flats A'

It was perceived that these tenants were marginally more likely to be employed (n=3) than unemployed (both n=2), although some perceived that there was a mixture of the unemployed and the employed (n=5). Residents were regarded as being unskilled/semi-skilled workers or retired (n=3). Socially acceptable and legal activities were predominantly seen to include driving/parking cars (n=5), chatting (n=4), and children playing/people walking (both n=3). Socially unacceptable or illegal activities mentioned were wide-ranging and included graffiti (n=4), youths loitering and vandalism (both n=3), and drug dealing and car-related crime (both n=2). More minor incidents of deviancy were also perceived to be probable. Feelings and emotions that might be felt walking in the area were dominated by 'unsafe/wary/don't like it' (n=9).

> *"Apprehension ... high walls and hiding places for people to lurk" (Planning Professional 1).*

Suggested changes included landscaping and 'less concrete' (both n=3), and redesigning the parking deck and street scheme (n=2). The general perception was a negative image of an unsafe area with potentially wide ranging incidents of crime and deviancy. The design elements such as the high walls, enclosed parking area, underpasses and the 'hard' image created by the concrete structure itself were issues of particular concern.

> *"Opening up of parking deck, whole aspect is 'closed off' with a corridor effect" (Planning Professional 1)*

10.2.2 Image 2. 'Terraced Housing A'

The employed low-income groups (n=9) that were perceived to reside in this image, engage in chatting (n=8), children playing (n=5) and washing the car (n=4). Unacceptable activities such as fly-tipping/litter (n=4), noisy and abusive language/deviant behaviour (n=4), car crime (n=3) and burglary (n=2) were

common examples, although an overwhelming sense of safety prevailed ('safe/fine/like it' n=7).

> *"Comfortable – good vistas, close to residents and potential help" (Planning Professional 7).*

Suggested improvements included landscaping, repair/maintenance and lighting (all n=4) and less parking on the street (n=2).

> *"Needs a face-lift, otherwise not unpleasant" (Planning Professional 5).*

Generally, the perceived image was one of a safe, employed community with low levels of crime and minor suggested improvements. However, some respondents (n=4) expressed specifically, that they felt they would be more fearful at night, in spite of the daytime scene represented in the image.

10.2.3 Image 3. 'Semi-Detached Housing B'

The residents were regarded as being predominantly unemployed (n=7) and engaged in socially acceptable activities such as children playing (n=6), chatting (n=5), and washing the car (n=4). Unacceptable activities potentially included burglary (n=4), drug dealing (n=3), car theft, fly-tipping, vandalism, squatting and dogs fouling (all n=2). Two further examples of deviancy were also mentioned.

> *"Possibly burglaries and drug rings" (Planning Professional 3)*

Furthermore, feeling 'unsafe/wary/don't like it' (n=8) were dominant emotions for this group of planning professionals.

> *"Nervous, frightened, wary" (Planning Professional 3).*

Suggested changes were dominated by renovation and upgrading of the derelict property (n=8).

> *"Maintenance/repair of unoccupied house and garden" (Planning Professional 10).*

An extensive array of crime and deviancy were believed to occur in this location and high levels of fear were typical. Strong agreement concerning the unemployed status of the residents and the necessity for renovating the derelict property reveals a distinctly negative imagery. The visible 'signs of decay', which are clearly discernible, are also associated with another suggested social dimension.

"More rigorous control over unruly tenants" (Planning Professionals 5).

10.2.4 Image 4. 'Detached Housing A'

Universal agreement was evident within this sample group, concerning the perceived employed status of these residents (n=10), who were considered to be company directors, doctors and solicitors. Socially acceptable activities included walking the dog (n=4), chatting (n=3), vehicle traffic, gardening and 'not much' (n=2).

"Not many [activities], very private. Most travel by car, so not many people [would be] on the street" (Planning Professional 5).

Few unacceptable or illegal activities were perceived to exist in this environment, although car theft, speeding and dogs fouling (all n=2) were noted. However, the most common response was that no crime or deviancy would occur (n=4). Accordingly, the planning professionals expressed dominant notions of safety (n=7) as opposed to fear (n=1).

"Fine, pleasant environment" (Planning Professional 4).

In terms of suggested improvements, some agreed 'none' were necessary (n=4), but there were concerns to visibly 'soften' the landscape.

"Less fortress-like" (Planning Professional 5).

In summary, this image was perceived as being the domain of high status professional residents, engendering low levels of fear and possessing minimal incidents of crime and deviancy. The design was regarded pleasant and safe,

although some concern was expressed relating to the perceived 'fortress-like' image and how this may impede community interaction.

10.2.5 Image 5. 'Low-rise/Walk-up Flats B'

Conversely, the residents in this image were generally considered to be unemployed (n=7), rather than employed (n=2). Socially acceptable activities included children playing (n=7) and chatting (n=3). Unacceptable activities were perceived to be extensive in both range and number. Graffiti (n=6), car crime (n=4), drug dealing (n=4), vandalism (n=3) fly-tipping (n=2) and six individual examples were cited.

> *"Car-related crime, graffiti, drug dealing and fly-tipping" (Planning Professional 6)*

Fear levels were high, with responses being dominated by 'unsafe/wary/not like it' (n=9), rather than 'safe/ok/like it (n=1).

> *"Unease" (Planning Professional 10), "Nervous, wary" (Planning Professional 3).*

Many changes were proposed including landscaping (n=7), street lighting (n=5), lowering the height of the block (n=3), private gardens (n=2) including eight others.

> *"Provision of private gardens, more windows facing onto streets and a lower-rise development" (Planning Professional 2).*

This image was perceived to generate high levels of both fear and incidents of crime and deviancy, and was associated with a negative image. It should be noted that suggested improvements focused upon delineating the territorial boundaries, increasing opportunities for surveillance, privatising the gardens, reducing the height of the block and landscaping; all potentially 'newmanesque' in character.

10.2.6 Image 6. 'Low-Rise/Walk-up Flats A'

The majority of respondents considered the residents to be employed (n=7) rather than unemployed (n=1), and examples cited included council/social/office workers,

and unskilled/semi-skilled workers. Residents' circulating and chatting (both n=3) featured as the dominant socially acceptable activity. 'Inactivity' was also cited (n=3). Unacceptable activities included 'none' (n=3), car crime (n=3), and dogs fouling (n=2). Four other examples included public drinking, drugs, verbal abuse and neighbour nuisance (all n=1). Those who felt 'unsafe/wary/don't like it' (n=3) marginally dominated those who potentially felt 'safe/fine/like it' (n=2), while mixed/neutral response also featured (n=2). Interestingly, one respondent felt nostalgia at having lived in such an area previously.

> *"Apprehensive on walkways and balconies ... replace blockwork with open railings" (Planning Professional 8)*

Suggested changes were dominated by landscaping (n=6), and also included the removal or 'opening up' of balconies (n=3) and improved lighting (n=2). Others ranged from redesigning, cleaning the exterior and delineating more clearly between the road and car park (n=1).

> *"Tidying up of the road/car park...no clear delineation between the two" (Planning Professional 1).*

Overall, this image was regarded in somewhat neutral terms. It was seen to possess moderate criminogenic potential with low levels of crime/deviancy and fear of crime. The common desire to landscape the design and remove or redesign the balconies/walkways is a significant finding. Concern for safety at night (n=3) was also apparent, and this contrasts with 'Semi-detached Housing A' (see section 10.2.8) where notions of safety were anticipated both day and night.

> *"Safe in daytime, apprehensive at night" (Planning Professional2).*

10.2.7 Image 7. 'High-Rise Flats B'.

The residents were perceived to be predominantly employed (n=4), a mixture of employed and unemployed (3), rather than unemployed (n=1). The semi-skilled/unskilled residents were perceived to engage in everyday activities (n=2) such as dog walking (n=3), although children playing was cited most often (n=7). Socially unacceptable and illegal activities were varied and included youths

loitering (n=3), verbal abuse (n=2), and speeding, vandalism, drugs and car crime (all n=1). However, the presence of no illegal activities was also cited (n=3).

> *"Not that many despite boring high-rise, it looks in pretty good shape" (Planning Professional 5).*

Correspondingly, feelings of perceived safety (n=5) marginally outweighed feeling 'unsafe/wary/not like it' (n=4).

> *"Safe, but a bit exposed, visible" (Planning Professional 2).*

Suggested improvements varied from lowering the height of the development, enclosing the open space for private parking and lighting (all n=2). Other examples were privatising the gardens, redevelopment and installing street furniture (all n=1). In general, this design was perceived as being mildly criminogenic and engendering moderate notions of fear. Suggested changes were again, based upon many of Newman's ideas and the perceived image was decoded in a neutral manner.

10.2.8 Image 8. 'Semi-detached Housing A'.

Overwhelming agreement existed upon the perceived employed status of these residents (n=10), who were perceived to be professionals. Socially acceptable activities cited were extensive, and included chatting (n=7), children playing (n=5) washing the car (n=4), gardening (n=3) and walking (n=2). Illegal, socially unacceptable activities were not believed to exist by the majority of planning professional (n=8), and car crime, parking and litter were the only examples mentioned (all n=1).

> *"None really" (Planning Professional 1)*

Perceived emotions relating to this image were in unanimous agreement upon the safety of this environment; 'safe/fine/like it' (n=10).

> *"Relatively relaxed, day and night" (Planning Professional 2)*

The satisfaction with this image is further supported by the relative scarcity of suggested improvements. Enclosing the front garden (n=3) and improved/additional lighting (n=3) were the examples, but 'none' (n=4) was the most common response. In summary, this design was perceived in highly positive terms, to possess minimal criminogenic potential and negligible levels of fear.

10.2.9 Image 9. 'Terraced Housing B'.

The residents were generally perceived to be unemployed (n=6), rather than employed (n=3). The nature such employment was perceived to be predominantly manual/unskilled. Children playing (n=4) was the favoured social activity along with gossiping (n=4), and pedestrian movement (n=3). Wide-ranging socially unacceptable or illegal activities that were perceived as potential, were neighbourhood nuisance (n=5), drug dealing (n=4), youths acting anti-socially (n=3), car crime (n=2) and vandalism (n=2). A further four activities were also mentioned. Feeling unsafe/wary/don't like it (n=7) dominated over feelings of safety (n=2).

"Not safe – a dodgy area with dodgy characters" (Planning Professional 1)

Proposed amendments were universally concerned with the repair / renovate / rebuild the derelict property (n=10). New boundary walls and improved/additional lighting (both n=2), were also cited.

"Repair derelict houses and boundary walls" (Planning Professional 3).

Commonly, notions of crime/deviancy, fear of crime and solutions to renovate the derelict property confer upon this design, a decidedly negative flavour.

"What a mess, where's the soul of this place gone?"
(Planning Professional 5).

Again, the visible 'signs of decay' seem to influence the interpretation of the overall image and associations are clearly being made between state of repair and social problems.

10.2.10 Image 10. 'Detached Housing B'.

All the planning professionals questioned, agreed that the residents were employed (n=10), as directors and professionals. Chatting and gardening (both n=4), car-washing and dog-walking (both n=3) and three other examples of socially acceptable activities were listed. Unacceptable activities were dominated by 'none' (n=8), although loose dogs (n=2) and car crime (n=1) were also cited. Feeling 'safe/ok/fine' was the overwhelming perceived emotion (n=10).

"Ok, a safe area with a feeling of openness" (Planning Professional 1).

Improvements were commonly not perceived to be required (n=5), while other suggestions included landscaping to produce boundaries (n=3), lighting (n=2) and gates on the drives (n=1). Generally, this design was regarded as non-criminogenic and was unanimously identified with personal safety.

"Very secure" (Planning Professional 9).

Few changes were proposed and a distinctly positive, safe, secure and pleasant image was observed and decoded.

10.2.11 Overview

To summarise, the ten images can be divided into three distinct groups in terms of how they were perceived by the planning professionals. The first group is composed of designs that were perceived to be 'positive', in terms of employment, safety and limited suggested improvements. These include:

Image 2 - Terraced A
Image 4 - Detached A
Image 8 - Semi-detached A
Image 10 - Detached B

The second group was regarded in more neutral terms, being neither safe nor unsafe, and included:

Image 6 - Low-rise/Walk-up flats A
Image 7 - High-rise flats B

Conversely, the third group was perceived in overtly negative terms, as being highly criminogenic, unsafe and in need of major alteration. This group consisted of the following designs:

Image 1 - High-rise flats A
Image 3 - Semi-detached B
Image 5 - Low-rise/Walk-up flats B
Image 9 -Terraced B.

The planning professionals' responses strongly underpin Newman's ideas. This is particularly apparent in many of the suggested changes that were mentioned, which were singularly 'newmanesque' in nature. Clear and distinct associations exist in relation to the housing designs presented, especially regarding those with visible 'signs of decay'. It is also interesting to note that some of the changes suggested were of a social nature, yet taken from a purely physical image, where no individuals were actually visible. The concern over the high external boundary wall of 'Detached Housing A' was linked to inhibiting social interaction, while the poor image and 'signs of decay' in 'Semi-detached Housing B' were associated with 'unruly tenants'.

The qualitative responses of planning professionals has provided insights into their perceptions and associations that they hold for varying housing designs. A more detailed analysis in the quantitative section promises to further develop our understanding of urban residential space from the perspective of the planning professionals interviewed.

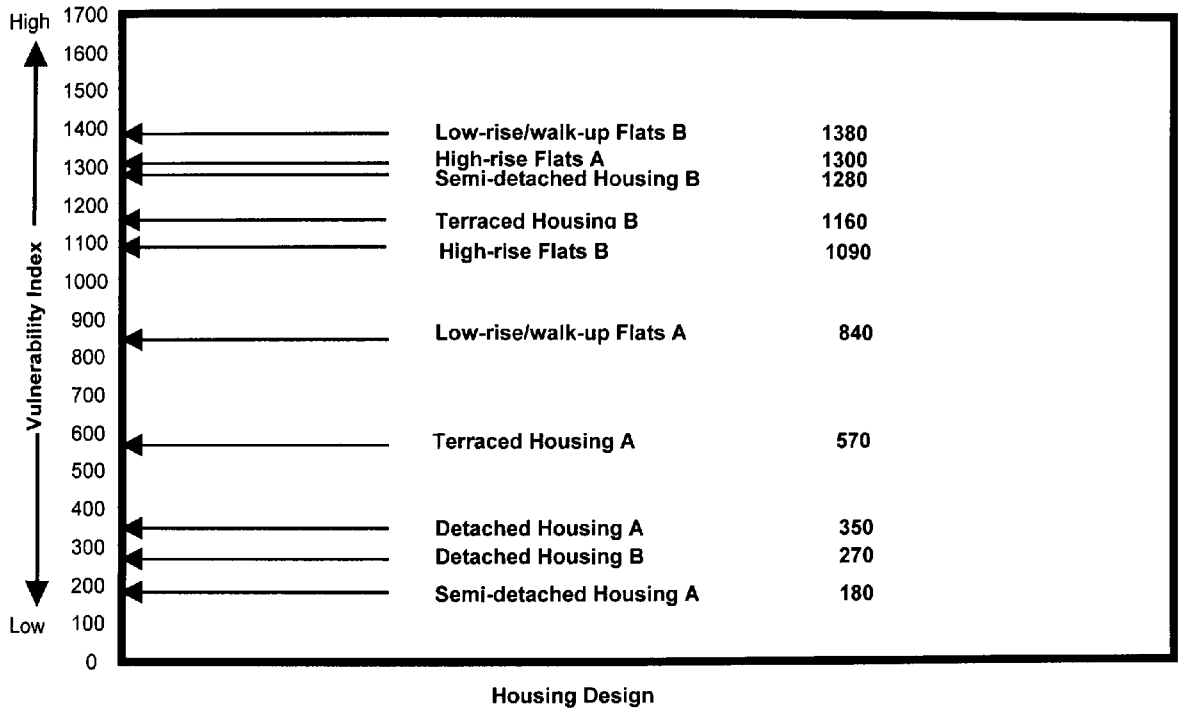
10.3 Quantitative Data Analysis

Ten planning professionals were asked the same eighteen questions (see Chapter 8, section 8.6.3.1) as all the other groups studied, relating to the ten images presented. The results are detailed and discussed below. Each of the respective bar charts is presented hierarchically to enable clear identification of patterns and trends, therefore the order in which housing type appears may change from figure to figure.

10.3.1 The 'Absolute Hierarchy of Vulnerability'

Analysis of the data reveals that, in terms of the 'Absolute Hierarchy of Vulnerability', the planning professionals perceived five designs to be particularly vulnerable to crime and deviancy. These were 'Low-rise/walk-up Flats B', 'High-rise Flats A', 'Semi-detached Housing B', 'Terraced Housing B', and High-rise Flats B'. A further three designs (Semi-detached Housing A' and both 'Detached Housing A' and 'B') were considered to possess potentially low levels of vulnerability. Figure 10.3.1 clearly illustrates this pattern.

Figure 10.3.1 The 'Absolute Hierarchy of Vulnerability'



Note: Ten planning professionals answered 17 questions, which were scored, expressed as a % and aggregated.

'Terraced Housing A was considered to be moderately vulnerable, while 'Low-rise/walk-up Flats A' were regarded as significantly more vulnerable, though not to the same extent as the five most vulnerable designs. Table 10.3.1 reveals that the aggregated data provided by this group, clearly supports Newman's ideas. The 'run-down' 'Low-rise/walk-up Flats B' are perceived as possessing a far greater criminogenic capacity than all the other designs, while the well-maintained 'Semi-detached Housing A' was considered to be the least vulnerable by a wide margin.

Newman's disapproval of multiple dwelling units (MDUs) is further supported by an analysis of this data. MDUs were perceived by the planning professionals as generally far more criminogenic than single dwelling units (SDUs). When combined, the 'High-rise flats 'A' and 'B' (1300+1090 =2390/3400) were considered to be significantly more vulnerable than 'Detached Housing A' and 'B' (350+270=620/3400). The very high vulnerability score of 'Semi-detached Housing B' is in sharp contrast to 'Semi-detached Housing A' and may be explained by the clear and visible 'signs of decay' and dereliction in the image. 'Signs of decay' will be discussed in greater detail in section 10.3.4. In terms of design typology, Table 10.3.1 provides reveals a distinct pattern.

Table 10.3.1 Housing Design and Vulnerability

Most Criminogenic design	Housing Design	Score (out of 3400)
	High-rise Flats A and B	2390
	Low-rise/walk-up Flats A and B	2220
	Terraced housing A and B	1730
	Semi-detached housing A and B	1460
Least criminogenic design	Detached housing A and B	620

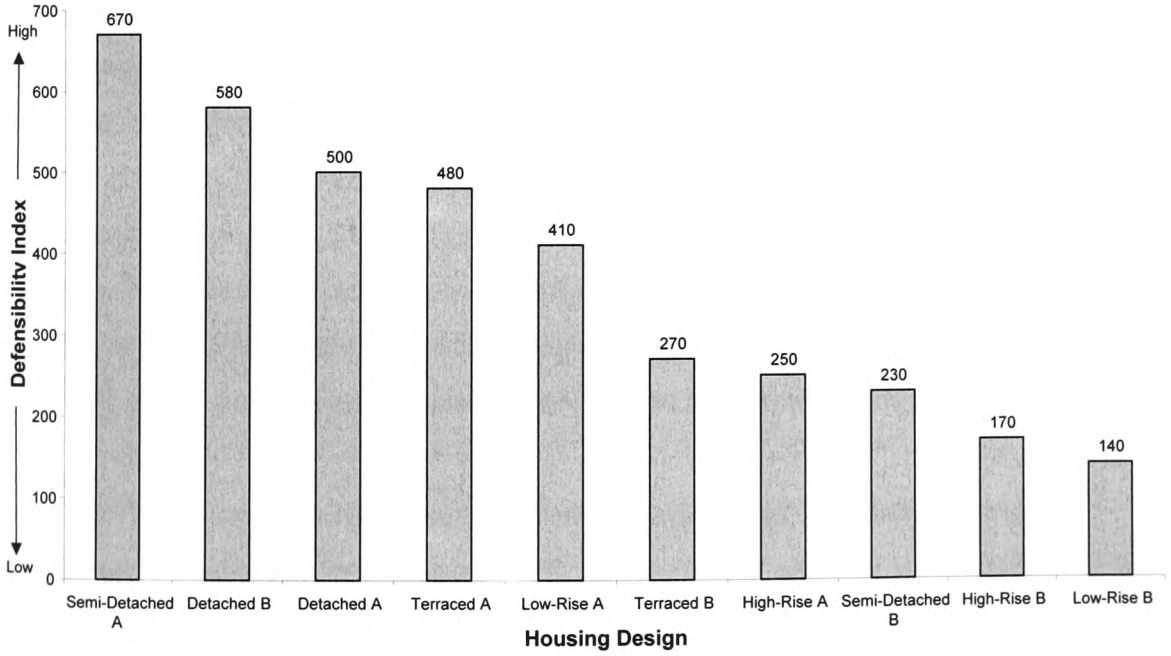
Note: The scores for each design type were aggregated to produce a maximum score of 3,400.

Newman's *'Defensible Space'* (1973) was highly critical of both high-rise and low-rise/ walk-up flats, claiming that such designs contain elements that might facilitate criminal activity, rather than discouraging it. The results presented in Table 10.3.1 reveal that planning professionals decoded the images in accordance with Newman's fundamental findings. Indeed, the qualitative section supports this. The qualitative insights relating to 'High-rise Flats A', cited in section 10.2.1, reveal that there was some concern for the presence of hiding places and a 'hard image'. Section 10.2.5 ('Low-rise/walk-up Flats B') expresses a perceived need for many changes of a distinctly 'newmanesque' variety. This may suggest that knowledge of his theory, or at least some of the key elements, are an integral part of the planning professionals' training. A more detailed analysis of the perceived 'defensible space' qualities of each design may provide some further insights.

10.3.2 Perceptions of Defensible Space

The responses to the questions that probe 'defensible space' perceptions were amalgamated and are illustrated in Figure 10.3.2 below. The well-maintained image of 'Semi-detached Housing A' is clearly perceived as the most 'defensible' design with a rating of 670 out of 700. 'Detached Housing B' (580), 'Detached Housing A' (500), 'Terraced Housing A' (480) and 'Low-rise/walk-up Flats A' (410) were all considered to posses relatively high levels of defensibility. The other five designs were considered to possess noticeably lower levels of defensibility. These were 'Terraced Housing B' (270), 'High-rise Flats A (250), 'Semi-detached B' (230), 'High-rise Flats B (170) and 'Low-rise/walk-up Flats B (140). The hierarchy in terms of defensibility, closely resembles the 'Absolute Hierarchy of Vulnerability' (see Figure 10.3.1) and suggests that 'defensible space' qualities are important elements in determining the overall image and vulnerability perceived for each design.

Figure 10.3.2 Perceptions of Defensible Space



Note: Ten planning professionals answered 7 questions, which were scored, expressed as a % and aggregated.

This data unambiguously supports Newman (Newman, 1973; Newman and Franck, 1980, 1982). 'Low-rise/walk-up Flats A' scored 410, and was therefore perceived to possess relatively high levels of defensibility. The perceived 'private' nature of the design and the relative tidy, well-maintained image may explain this. Significantly, the 'Low-rise/walk-up Flats A' were perceived as being far more

defensible than 'Low-rise/walk-up Flats B', with a lower standard of maintenance, which was considered the poorest, in terms of defensibility. One other point of interest, is that the better-maintained version of most designs, were considered as more defensible than their counterparts. However, 'Detached Housing B' was considered to be more vulnerable (Figure 10.3.1) and more defensible (Figure 10.3.2) than 'Detached Housing A'. This may be explained in part, by reference to the qualitative responses. As discussed in section 10.2.4, 'Detached Housing A' was considered to be both too 'private' and 'fortress-like' in appearance. The high exterior boundary wall may well have affected perceived levels of surveillance, and responses expressed concern about the reduced potential for resident interaction and intervention that this design element represented. This may represent a significant finding, in that extreme levels of privacy may counteract with and work against existing 'defensible space' qualities, suggesting that a crucial privacy threshold may exists in terms of urban designs.

The well-maintained 'Terraced Housing A' scored 570 in the 'Absolute Hierarchy of Vulnerability' and was also perceived to be a highly defensible design. This design may well warrant further consideration in terms of housing high-density populations. However, the poor score of 'Terraced Housing B' (270), reiterates the highly complex nature of attempting to evaluate elements of physical design. The importance of real estate management and the ongoing maintenance of property, are therefore restated and again, Wilson and Kellings' 'Broken Windows' (1982) thesis is reinforced. Newman's theory is also supported in this regard since the 'image' of the design has clearly influenced the perceived criminogenic potential.

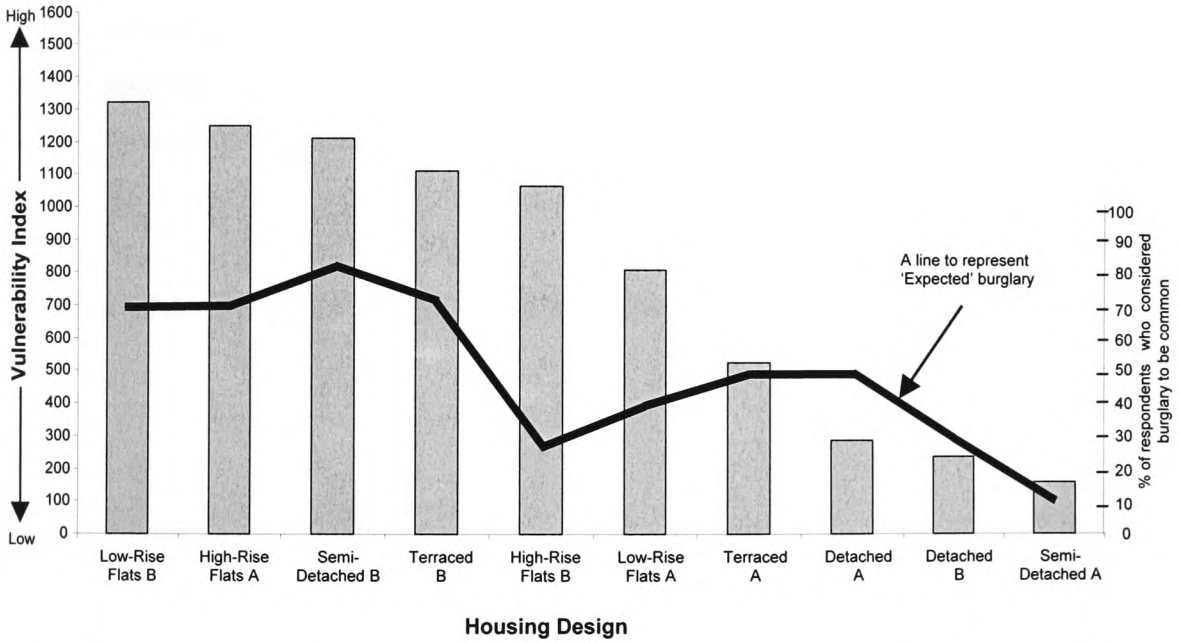
10.3.3 The 'Absolute Hierarchy of Vulnerability and 'Expected Burglary'

As already discussed, reference to the 'Absolute Hierarchy of Vulnerability' (Figure 10.3.1) reveals that 'Semi-detached Housing A' and the detached housing designs were perceived as being the safest and most defensible. The detached design engenders the least fear (see Figure 10.3.5), and, is most frequently preferred, in terms of where respondents expressed a desire to live (see Table 10.3.2). Figure 10.3.3 illustrates the 'Absolute Hierarchy of Vulnerability' and introduces an additional dimension to represent the level of anticipated burglary for each design type. This is represented as a percentage and provides further insights into the perceptions of this intriguing sample group, suggesting that yet further

considerations are required to fully understand how 'defensible space' is viewed and interpreted by planning professionals.

Figure 10.3.3 indicates that the planning professionals questioned perceived burglary to be more common in some designs than in others. Expected burglary rates ranged from 10% ('Semi-detached Housing A') to 80% ('Semi-detached Housing B'). Significantly, these extremes are apparent for the same housing type, suggesting that visible 'signs of decay' and general image both play a crucial role in the perceptual process.

Figure 10.3.3
The 'Absolute Hierarchy of Vulnerability' and 'Expected Burglary'



Note: Ten planning professionals answered 16 questions, which were scored, expressed as a % and aggregated. The black line represents responses to a separate question and superimposes 'expected burglary' levels onto each design.

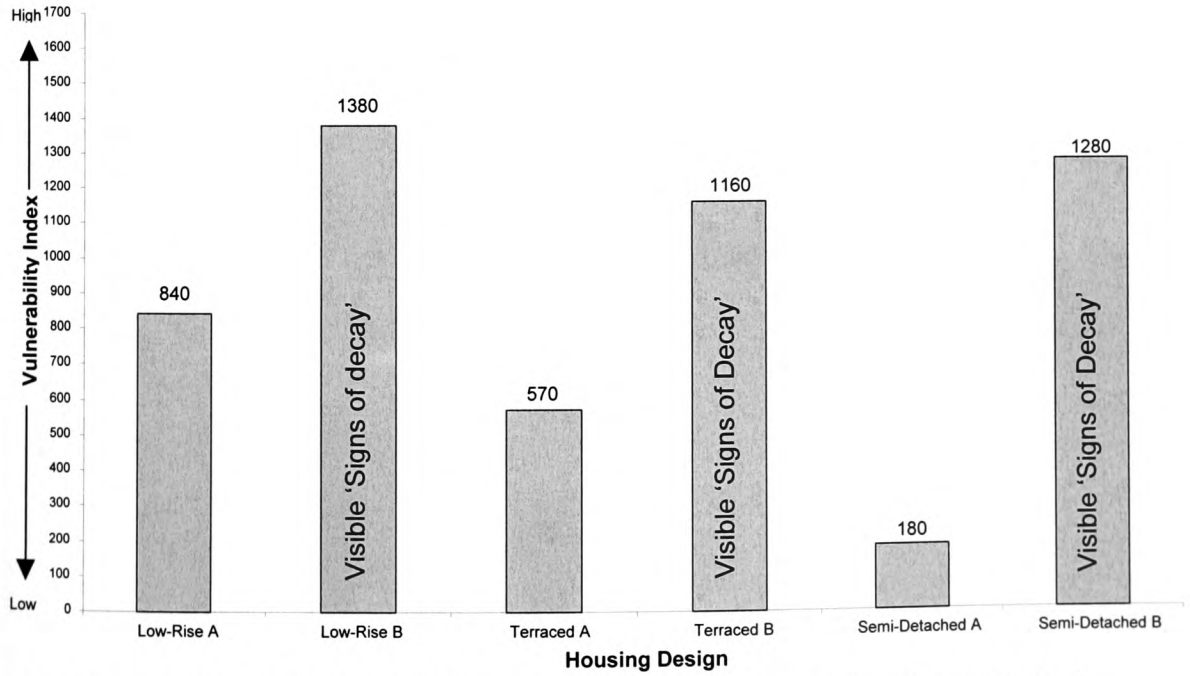
This pattern is also apparent for 'Terraced Housing A' and 'B', though to a lesser degree (70% against 50%). Similarly this is also the case, for the other design with 'visible signs of decay'; 'Low-rise/walk-up Flats 'B'. The poorly-maintained 'B' version is considered to possess higher expected burglary levels (70%) than the well-maintained counterpart (40%). 'High-rise Flats B' were considered to be less prone to burglary (30%) than 'High-rise Flats A' (70%). This may be explained by the recent signs of renovation that are clearly visible in the design and the relatively minor differences between the two designs in terms of maintenance and

general condition. Burglary was also considered to be less prevalent in the three designs graded as least vulnerable in the 'Absolute Hierarchy of Vulnerability'. These were 'Detached Housing A' (50%), 'Detached Housing B' (30%) and 'Semi-detached Housing A' (20%). The data for expected burglary broadly reflects the trend in the 'Absolute Hierarchy of Vulnerability', however, 'Semi-detached Housing B' and 'Terraced Housing B' distorts the trend upward, while 'Low-rise/walk-up Flats A' distorts it in a downward direction. 'Image' appears to be a highly complex phenomenon, which is only partly related to expected levels of burglary.

10.3.4 Signs of Decay and Comparing Design 'A' with Design 'B'

Three of the ten images selected for this research deliberately contained visible 'signs of decay', such as boarded-up windows or graffiti, that are clearly visible to the respondent viewing the images. The comparison of such designs with their well-maintained counterparts provides an interesting comparison (see Figure 10.3.4).

Figure 10.3.4 Visible 'Signs of Decay', Design and Vulnerability



Note: Ten planning professionals answered 17 questions, which were scored, expressed as a % and aggregated.

The poor quality 'Semi-detached Housing B' is considered to be significantly more vulnerable than 'Semi-detached Housing A'. Similarly, 'Terraced Housing B' is also considered to be far more vulnerable than 'Terraced Housing A'. Finally, 'Low-

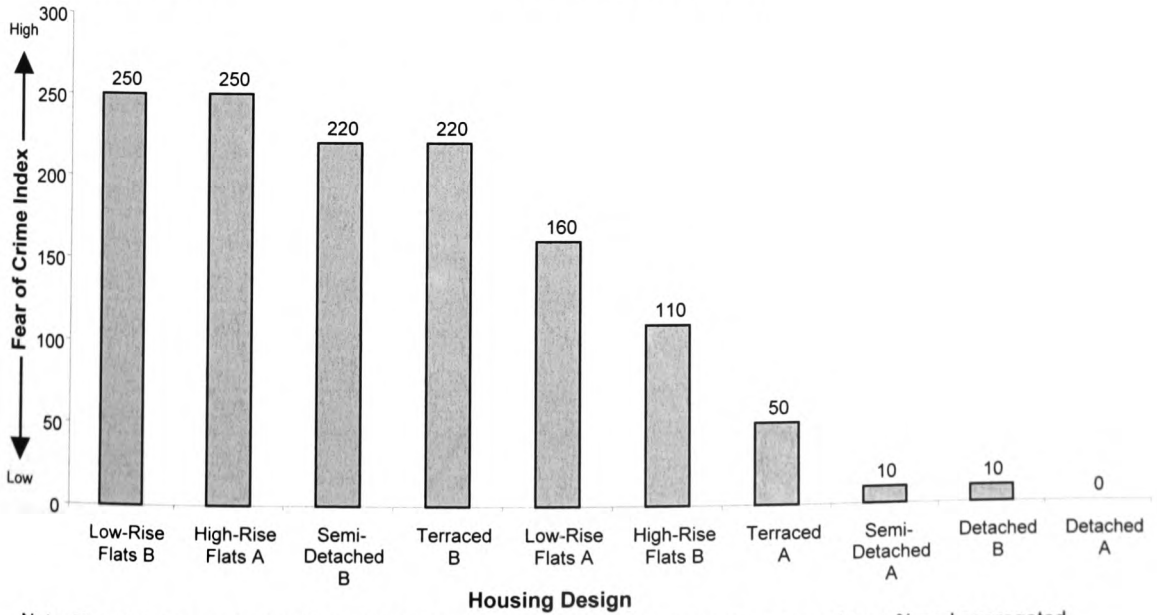
rise/walk-up Flats B' are also clearly perceived as being considerably more vulnerable to crime that its less well-maintained example. Reference to Figure 10.3.1 ('Absolute Hierarchy of Vulnerability'), demonstrates that three out of the five less well-maintained examples were considered as significantly more criminogenic than their well-maintained counterparts by the planning professionals. This was not the case for both 'Detached Housing' and 'High-rise Flats, where design 'A' was considered more vulnerable than design 'B'. This can be explained by the perceived 'fortress-like' features in 'Detached Housing A' and the 'hard' image of the concrete structure of 'High-rise Flats A'. Significantly, these design types did not possess 'visible signs of decay' and were not so visually differentiated. Therefore, the perceptions of these designs were less polarised. Further research is therefore necessary in this regard.

It is apparent that 'defensible space' has been largely supported by the data. Multiple dwelling units and all designs exhibiting 'visible signs of decay', were perceived as being less defensible than other designs. In terms of 'image' and building height, Newman's ideas are confirmed.

10.3.5 Fear of Crime and Design

Figure 10.3.5 provides a graphical representation of the three questions asked, which focused on fear of crime (see Chapter 8, section 8.6.3.1).

Figure 10.3.5 **The Fear of Crime**



Note: Ten planning professionals answered 3 questions, which were scored, expressed as a % and aggregated.

Fear of crime appears to be subject to considerable variation for this group of planning professionals, with a total fear level of 1280/3000, which equates to an average group fear level of 42.7%. Variation in terms of each design type was significant, as Figure 10.3.5 illustrates. Levels of fear seem to move harmonically with the 'Absolute Hierarchy of Vulnerability' quite closely.

In general, the four MDU's were again more prominent, with a total fear level of 770/1200 which equates to an average score of 193/300 for the four designs. Such designs engender significantly higher levels of fear than the six SDU's which totalled only 510/1800, an average of 85/300. Further support for Newman's aversion to MDUs (Newman, 1973; Newman and Franck, 1980, 1982) is therefore revealed. However, the 'High-rise Flats B' possessed relatively low levels of perceived fear (110/300), possibly explained by the signs of recent renovation, which may have considerably upgraded the image.

10.3.6 Residential Preferences

Reference to Table 10.3.2 reveals that the planning professionals interviewed possess a strong desire to reside in only three of the designs; 'Semi-detached Housing A' (80%), 'Detached Housing B' (80%) and 'Detached Housing A' (90%). Significantly, the only other design where a preference was expressed at all was for 'Terraced Housing A' (30%).

Table 10.3.2 **Residential Preferences**

Image	% who said they would like to live here
Low-rise/walk-up flats B	0
High-rise flats B	0
High-rise flats A	0
Terraced Housing B	0
Low-rise/walk-up flats A	0
Semi-detached Housing B	0
Terraced Housing A	30
Semi-detached Housing A	80
Detached Housing B	80
Detached Housing A	90

Note: Ten planning professionals answered one question, which was scored and expressed as a %.

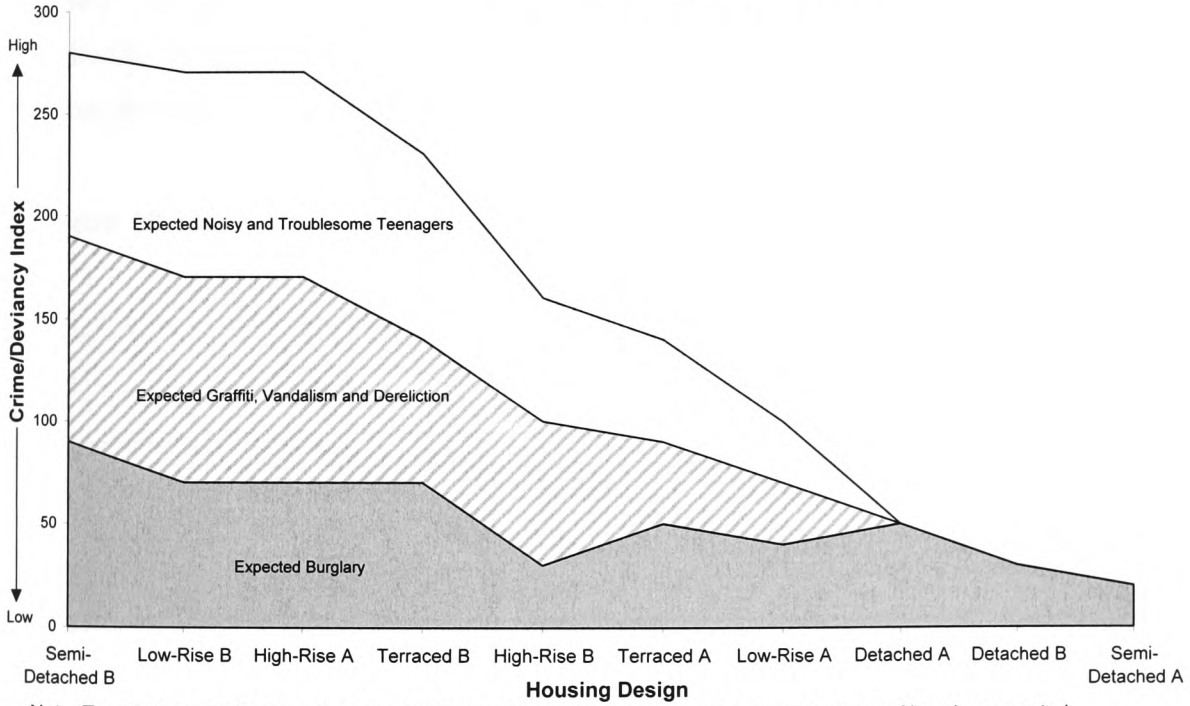
The planning professionals were in overwhelming agreement that they would prefer not to reside in any of the other designs (0%).

Preference and perceived vulnerability seem to be intricately interwoven, particularly when comparing this data with the 'Absolute Hierarchy of Vulnerability' clearly reveals. Table 10.3.2 illustrates the preferences of the planning professionals interviewed.

10.3.7 The Crime/Deviancy Index

Figure 10.3.6 illustrates the results for the three questions designed to probe perceived crime/deviancy levels (see Chapter 8, section 8.6.3.1)

Figure 10.3.6 **The Crime/Deviancy Index**



Note: Ten planning professionals answered 3 questions, which were scored, expressed as a % and aggregated.

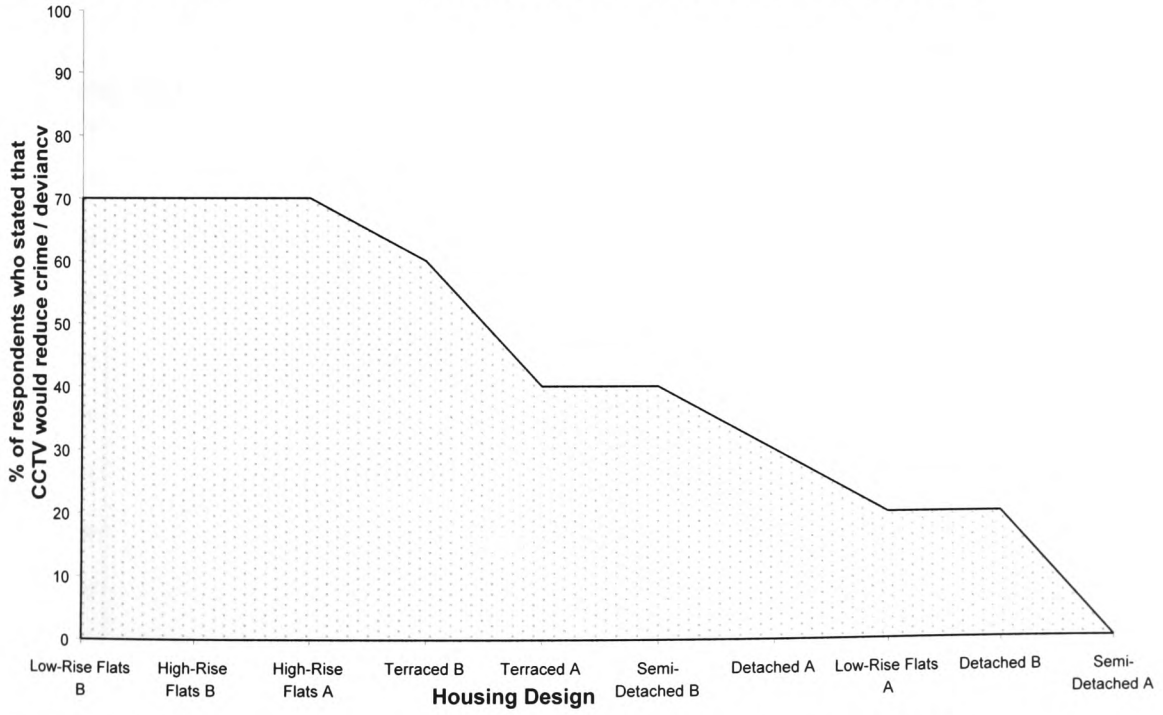
There appears to be a broad pattern, which largely reflects the 'Absolute Hierarchy of Vulnerability' and the trends found in the qualitative analysis. The five designs regarded as being more 'negative' predictably posses high levels of expected crime/deviancy. Conversely, those perceived to be more 'positive' have lower levels of expected crime/deviancy. In terms of burglary, the renovated appearance of 'High-rise Flats B' may partially explain the relatively low score, while concerns for visibility caused by the 'fortressification' in 'Detached Housing A' may account for its higher score. Noisy, troublesome teenagers and graffiti / vandalism / dereliction are all perceived to exist at high levels in the five most vulnerable

designs, and perceptions fall sharply as the designs become safer. Significantly, such incidents are not expected to exist in the three least vulnerable designs ('Detached Housing A', 'Detached Housing B' and 'Semi-detached Housing A') Burglary, however, was nevertheless anticipated in 'Detached Housing A', perhaps suggesting that 'potential rewards' may be concealed within this private and highly fortified design. Clearly, socio-economic associations were clearly influencing the perceptions of this group.

10.3.8 The Perceived Effectiveness of CCTV

There appears to be limited agreement concerning the overall effectiveness of CCTV in reducing socially unacceptable and criminal behaviour with a total score of 420/1000 (42%) believing this to be the case across all ten designs. In terms of particular designs, however, CCTV was perceived to be a useful tool, for reducing crime/deviancy in the MDUs (see Figure 10.3.7).

Figure 10.3.7 The Perceived Effectiveness of CCTV



Note: Ten planning professionals answered one question, which was scored and expressed as a %.

The low score for 'Low-rise-walk-up Flats A' may be explained by its 'private' and well-maintained demeanour. It would appear that as perceived vulnerability decreases, the utility and effectiveness of CCTV is seen to decline. It is interesting, therefore, to note that CCTV installation in residential areas tends to be

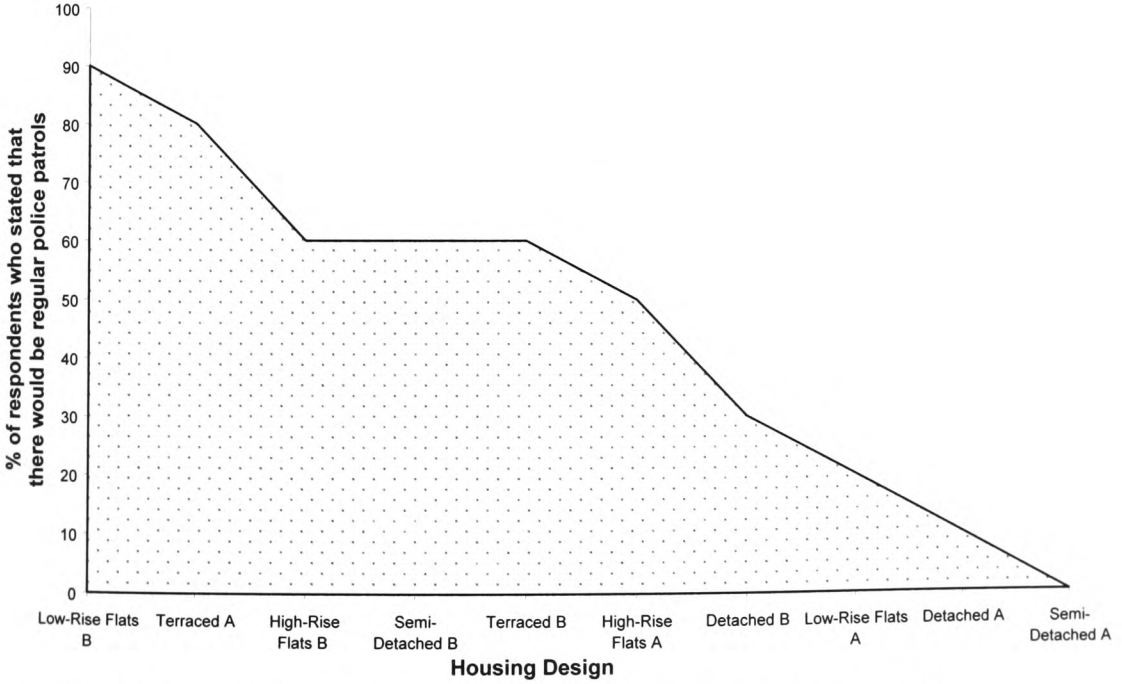
predominantly attached to those designs that are least vulnerable to crime and more able to afford these and other measures. Notwithstanding the obvious civil liberties considerations, these findings suggest further research and deliberation are required.

10.3.9 Regular Police Patrols

Similarly, limited agreement was evident concerning the presence of regular police patrols across all designs, with a total score of 460/1000 (46%). Variation across the design typologies was also evident. Generally, police patrols were perceived to be more common for the most vulnerable designs, and less so in those designs regarded as being the safest, as Figure 10.3.8 demonstrates.

Interestingly, 'Terraced Housing A', which was perceived to possess relatively moderate levels of vulnerability (see Figure 10.3.1), was considered to be subject to regular police patrols (80%). Again, existing socio-economic associations may be influencing perceptions in this regard.

Figure 10.3.8 **Regular Police Patrols**



Note: Ten planning professionals answered one question, which was scored and expressed as a %.

10.3.10 Residential Experience and the 'Absolute Hierarchy of Vulnerability'

Table 10.3.3 below reveals how residential background may have influenced the perception of each image.

It appears that residential background, for the planning professionals does not affect their overall perception of each design, in terms of vulnerability. As Table 10.3.3 reveals, the vulnerability scores were stunningly consistent, irrespective of residential experience. The lack of any significant influence of housing experience upon the 'Absolute Hierarchy of Vulnerability' may be explained to a large extent by the increased exposure to residential building types as a result of the training that professional planners have undertaken.

Table 10.3.3

Residential Experience and the 'Absolute Hierarchy of Vulnerability'

		Hierarchy of Vulnerability score for Planning professionals who stated they ***had*** resided in such designs	Hierarchy of Vulnerability score for for Planning professionals who stated they ***had not*** resided in such designs
Terraced	A	590	400
	B	1150	1300
	Average	**870**	**850**
Semi-	A	170	200
Detached	B	1290	1250
	Average	**730**	**725**
Detached	A	340	360
	B	240	340
	Average	**290**	**350**
Low-rise/	A	550	910
Walk-up flats	B	1400	1370
	Average	**917**	**1140**
High-rise flats	A	-	1090
	B	-	1300
	Average	**-**	**1195**

Note: The 'Absolute Hierarchy of Vulnerability' perceived by each respondent was calculated and presented in terms of whether they had stated they had lived in the design type or not.

10.3.11 Crime Experience and Fear of Crime

When crime experience data is presented with the quantitative data collected on the fear of crime, an interesting outcome is observed, as demonstrated in Table 10.3.4. The three fear of crime questions generate a total score of thirty, as an 'Individual Fear Level' for each of the ten planning professionals. These ten scores were aggregated and expressed as a percentage to indicate the average 'Group Fear Level' for the respective groups.

Those who were victims of crime in 1999 were only marginally more fearful than those who had not experienced crime. The same analysis was conducted on the other three crime related questions, with the following results.

The fear level for those who were victims of crime before 1999 was 67%, contrasting with those that had not, where the level was only 56%. For those who knew people who had been victims of crime in 1999, the fear level was 59%, and, for those who did not, it was 53%. Finally, all the planning professionals knew of people who had been victims of crime prior to 1999, and their fear level was the same as the overall figure; 58%. Clearly, it can be seen that those who had individually experienced crime in the recent past were marginally more fearful than those that had not. Knowledge of people who had experienced crime in the past also generates the same overall result.

Table 10.3.4 Crime Experience and Fear of Crime

Those who were victims of crime in 1999	
Planning Professional Number	Individual Fear Level (maximum of 30)
1	17
3	16
5	20
Total 3 x 3 questions	53/90
Group Fear level, expressed as a %	**59 %**

Those who were *not* victims of crime in 1999	
Planning Professional Number	Individual Fear Level (maximum of 30)
2	14
4	17
6	18
7	14
8	10
9	23
10	25
Total 7 x 3 questions	121/210
Group Fear level, expressed as a %	**58 %**

10.3.12 Summary

The highly complex and interwoven nature of perceiving the built environment is again emphasised. Physical design elements clearly transmit complicated social messages and associations which contribute significantly to the overall 'image' of the design. Newman's theory of 'Defensible Space' is supported with regard to the perceptions of low-rise/walk-up flats and high-rise flats and for terraced, semi-detached and detached housing. Increased levels of privacy, territoriality, maintenance and overall 'image' are, in combination, perceived to represent significantly safer designs. Public, multiple-occupancy designs possessing lower levels of territoriality and maintenance are perceived to be more vulnerable to crime and deviancy. The possible over-emphasis of privacy and 'fortressification' in 'Detached Housing A' may undermine the positive aspects of this design. Indeed, the particularly rich commentary in the qualitative section is testament to the planners' understanding of many of Newman's ideas in the British context. The 'Absolute Hierarchy of Vulnerability' has provided a most useful scale for the gradation of housing designs and reveals a clear preference for the quintessential suburban semi-detached dwelling – of the well-maintained variety. The appearance of 'visible signs of decay' in selected images has been shown to be a powerful influence upon perceptions. Such findings therefore substantiate the importance of Newman's third concept of 'image and milieu', in addition to supporting Wilson and Kelling (1982) and Kelling and Coles (1996).

Planning professionals, as managers and designers of urban space, perceived a clear and distinct scale within the housing designs presented. A clear 'Stratification of Place' (Logan, 1978) is evident.

The 'defensible space' qualities of the terraced deign have recently been highlighted (Steventon, 1996) and the findings from this research suggest that further consideration of this design typology is warranted. The campaign for improved urban design (DETR, 1999) and future household projections (DOE, 1995) provide further impetus to this debate. The failure of design crusades of the past (Social Exclusion Unit, 1998) certainly testify to the powerful influence of perceptions in the stigmatisation of certain housing estates.

These findings suggest that perceptions are crucial to 'defensible space' and support recent studies on the subject (Tijerino, 1998; Ham-Rowbottom *et al.*, 1999). There may well exist interesting findings when this data is compared to that of other groups. The perceptions of those who are charged with the protection and policing of the urban environment promises further intriguing insights into criminogeneity in the British city, and are presented in the following chapter.

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Chapter 11

Data Analysis, Results and Discussion.

The Perceptions of Police Officers.

11.0 Data Analysis

This chapter analyses and interprets the data collected from the police officers.

11.1 Respondent Data Analysis

All the police officers interviewed indicated that they were white (n=10) and were predominantly male (males, n=9 and females, n=1). Most of the respondents were aged 42-49 (n=6), and there were three respondents who were aged 34-41 and one aged 50-57. Regarding marital status, the majority (n=9) were married, and one was divorced. All were employed as police officers in income groups of over £30,001 (n=3) and £20,001-30,000 (n=7). All had been educated to secondary school level, some had attended sixth form/college (n=3), and others had acquired professional qualifications and/or had attended university (n=3).

In terms of residential background the majority of respondents stated that they had lived in semi-detached housing (n=8), and detached housing (n=8), while some had also resided in terraced housing (n=3) and bungalows (n=2). None of the police officers stated that they had ever resided in low-rise/walk-up flats or high-rise flats. All were currently 'living with family' (n=10) while most (n=9) had resided in privately-owned (mortgaged) accommodation as opposed to privately-owned (outright) (n=3), private-rented (n=2) or council-rented accommodation (n=1). It is argued that personal/individual experience may affect how housing designs are decoded and this will be discussed in section 11.3.10

Perhaps surprisingly, the crime experience question reveals that the majority of police officers had *not* individually experienced crime in 1999 (n=9), with only one respondent stating that they had been the victim of crime during this period. However, many more (n=8), had experienced it prior to 1999, and this group unanimously stated that they personally knew others who had been the victim of crime, both in 1999 (n=10), and before 1999 (n=10). This data is examined more closely in relation to the fear of crime in Table 11.3.4 in the quantitative section of this chapter.

11.2 Qualitative Data Analysis

The qualitative data provided by the police officers yields interesting insights into their perceptions regarding the criminogenic capacity of housing designs and are discussed below. Comparison between the sample groups and a composite perspective receives detailed deliberation in Chapter 13.

11.2.1 Image 1. 'High-Rise Flats A'

It was perceived that these tenants were marginally more likely to be employed (n=4) than unemployed (n=3) and that they were low-paid, unskilled/semi-skilled workers (n=3). Socially acceptable and legal activities were seen to be varied, and included; children playing (n=4), people walking (n=3), traffic (n=2) and other examples such as; chatting, working on cars, and busking (all n=1). Socially unacceptable or illegal activities cited were also wide-ranging and included youths loitering (n=6), swearing (n=3), and incidents of graffiti, drug dealing, under-age drinking, criminal damage/vandalism and car theft (all n=2). Feelings and emotions that might be experienced while walking in the area, were dominated by 'unsafe/wary/don't like it' (n=6) rather than 'safe/fine/like it' (n=2). Being aware of people hiding and feeling like an 'outsider', were also mentioned.

"In the dark, not well-lit, afraid of being mugged (Police officer 6)

Possible improvements cited included increased/improved lighting (n=4) and eight other individual items. These included 'demolition', redeveloping to a single dwelling, removal of the high wall, high-profile policing, redesign the aesthetic appearance and lighten the colouring (all n=1). The overall perception was largely negative; of an unsafe area with potentially wide ranging incidents of crime and deviancy. The design elements such as the high walls, poor aesthetic appearance and the drab concrete structure itself were issues of concern. This design was perceived to be particularly problematic at night. An example of a suggested improvement is presented below.

"Major redevelopment into a single dwelling type" (Police Officer 3)

11.2.2 Image 2. 'Terraced Housing A'

The employed (n=7) teachers, police officers and students that were perceived to reside in the properties in this image, were considered to be engaged in chatting and walking and children playing was another prominent socially acceptable activity (all n=4).

> *"Neighbours gossiping on doorsteps" (Police Officer 9).*

Unacceptable activities included noisy/rowdy people and theft of cars (both n=3), as well as loud music, drugs, litter and illegal parking (all n=1). A sense of safety ('safe/fine/like it' n=6) prevailed over feelings of caution and fear (n=1).

> *"Relative safety, can see ahead for some distance" (Police Officer 4) and "Safety – established community" (Police Officer 7).*

Suggested improvements included improved lighting (n=5), front gardens (n=2) and less parking on the street, alarms, amendment to a cul-de-sac design and a neighbourhood watch scheme (all n=1).

> *"Road made into cul-de-sac, no through vehicles or pedestrians" (Police Officer 3).*

The perceived image was generally positive. It was regarded as a safe, employed community with low levels of crime and deviancy and only minor suggested improvements.

11.2.3 Image 3. 'Semi-detached Housing B'

The residents were regarded as being both employed (n=5) and a mixture of employed and unemployed (n=5). Socially acceptable activities such as children playing (n=5) and walking (n=3) were prominent along with car maintenance (n=3). Potentially unacceptable activities included criminal damage (n=4), car theft (n=3), youth annoyance (n=3), burglary (n=2), and drug dealing, drunkenness, and litter (all n=1). General sentiments varied. Some expressed notions of safety, while others experienced fear and apprehension.

"Comfortable" (Police Officer 3), "Wary of walking along the street" (Police Officer 6).

Dominant emotions for this group of police officers were 'none' (n=4), 'safe/ok/like it' (n=2) and 'pity' (n=2).

"Sympathy for those residents who take care of their homes" (Police Officer 4).

Suggested changes were dominated by upgrading of the derelict property (n=5) and improved street lighting (n=4). Other suggestions included on-curtilage parking (n=2), a neighbourhood watch scheme and a youth scheme (n=1). An extensive range of crime and deviancy were associated with this image although levels of fear were not dominant. Renovating the derelict property was a common response and negative imagery was largely prevalent. The visible 'signs of decay', which are clearly discernible, seem to be a highly influential factor in the decoding of this design.

"It does now look like a poor area" (Police Officer 5).

11.2.4 Image 4. 'Detached Housing A'

Overwhelming agreement existed concerning the perceived employed status of these residents who were considered to be company directors, doctors and businessmen (n=9). Socially acceptable activities included gardening (n=4), children walking to school (n=3) and chatting, dog-walking, parties, walking and traffic (all n=1). Unacceptable or illegal activities that were perceived to exist included 'none' (n=3), speeding (n=2) and burglary, illegal parking, theft youth annoyance and criminal damage (all n=1). As might be expected, the police officers expressed high levels of perceived safety (n=6) as opposed to fear (n=2).

"Secure and comfortable" (Police Officer 3),
"Safety; 'nice' area" (Police Officer 7)

Most felt improved street lighting would be beneficial (n=5) and clearer road markings were mentioned as possible improvements (n=2). Some perceived that

'none' were necessary (n=2). In summary, this image was perceived as being the property of high status business and management professionals, engendering low levels of fear and possessing limited incidents of crime and deviancy. The design was regarded in a positive manner, as being pleasant and safe with few major design improvements suggested.

11.2.5 Image 5. 'Low-rise/Walk-up Flats B'

The police officers interviewed considered the residents in this image to be unemployed (n=6), rather than employed (n=3). Socially acceptable activities included; children playing (n=6), chatting (n=4), walking (n=3), and parties/loud music and parking (both n=2). Perceived unacceptable activities were wide-ranging and were dominated by graffiti (n=7), drug dealing (n=4), youths loitering (n=4), criminal damage (n=3) and five other individual examples were cited.

> *"Youths congregating in the buildings in car park area making a nuisance of themselves and causing damage" (Police Officer 2).*
> *"This is an area of high crime rates" (Police Officer 5).*

Fear levels were not particularly high and the responses were dominated to a greater extent by 'unsafe/wary/not like it' (n=4), rather than 'safe/ok/like it' (n=1), while 'none' (n=3) was also mentioned.

> *"Very wary" (Police Officer 6), "Unsafe; theft from youths" (Police Officer 8).*

Extensive improvements were proposed and included improved street lighting (n=5), CCTV (n=4), removal of graffiti (n=3), and regular police patrols, community policing and the removal of the exterior walls (all n=2). More pertinent to 'defensible space' concerns, one respondent suggested the following changes.

> *"Complete redevelopment to single-unit dwellings" (Police Officer 3).*

In general, this image was perceived to possess higher levels of fear than of safety and incidents of crime and deviancy were potentially extensive. A negative image pervaded and suggested improvements were many and wide-ranging.

11.2.6 Image 6. 'Low-Rise/Walk-up Flats A'

The majority of respondents believed the residents to be employed (n=7) rather than unemployed (n=1), and examples cited included businessmen and factory workers. Socially acceptable activities included children playing (n=5), car washing (n=4), and walking (n=4). Unacceptable activities included car-crime (n=3), noise/music nuisance, youth annoyance and criminal damage (all n=2), and three individual items. Those who felt 'safe/fine/like it' (n=4) narrowly dominated those who potentially felt 'unsafe/wary/don't like it (n=2), while a mixed/neutral response also featured (n=2). There were differences in the responses of individual police officers as these quotations reveal;

> *"Good interaction between residents" (Police Officer 7) - "Looks quite a nice neighbourhood and buildings are well-cared for" (Police Officer 5).*

> *"The design of building is semi-intimidating – not related to residence" (Police Officer 4) - "Not a pleasant area" (Police Officer 2)*

Suggested changes were dominated by improved lighting (n=3), and creating a gate/barrier/fence around the car park (n=2). Other improvements also included knocking down the flats, control of access, CCTV, neighbourhood watch and providing green areas (all n=1).

> *"Knock down flats and re-house in two-storey houses" (Police Officer 2)*

However, the relative safety is perhaps best reflected by the following comment;

> *"Safe, street covered by CCTV" (Police Officer 8).*

Overall, this image was perceived in neutral terms; to exhibit moderate criminogenic potential, limited crime and deviancy and low levels of fear, although extensive design improvements were commonly cited.

11.2.7 Image 7. 'High-Rise Flats B'.

The residents were perceived to be a mixture of the unemployed and the employed (n=5), and employed (n=3), rather than unemployed (n=1).

"Working class factory workers, manual workers etc" (Police Officer 2).

Children playing (n=4), pedestrians (n=3) and the delivery of goods (n=3) were socially acceptable and legal activities mentioned, along with vehicle repairs, 'normal' business, and cars passing (all n=1). Socially unacceptable and illegal activities were varied and included youths loitering and causing nuisance (n=5), underage drinking, car-related crime and graffiti (all n=3). Drugs (n=2) and speeding and criminal damage (both n=1) were also cited. Feelings and emotions mentioned were perceived safety (n=3), feeling 'unsafe/wary/not like it' (n=3) and 'none' (n=3).

"Intimidated by high-rise flats" (Police Officer4).
"Concrete jungle-type area, where residents might not have much time for each other" (Police Officer 5).

Improvements to the design included improved lighting (n=4), providing youths with a focus (n=3) and redevelop/demolish (n=3). Access control (n=2), CCTV (n=2) and neighbourhood watch (n=1) also featured.

"Redevelop, if not, access control" (Police Officer 3)

In general, this design was perceived as to be relatively criminogenic, although it was not widely considered to engender high levels of fear and contrasts did arise.

"Fairly safe, open spaces delineate territory" (Police Officer 8)
"I would be very wary" (Police Officer 6)

Suggested changes were again based upon many of Newman's ideas and the perceived image overall was one of neutrality.

11.2.8 Image 8. 'Semi-detached Housing A'.

There was unanimous agreement upon the perceived employed status of these residents (n=10), who were believed to be professionals.

"Employed, in good quality jobs" (Police Officer 1)

Socially acceptable activities anticipated by the police officers included social interaction (n=5), children playing and washing the car (both n=3), daily routines and gardening (both n=2) and walking and jogging (both n=1). Illegal, socially unacceptable activities cited, included none (n=3), burglary (n=3), 'domestics' (n=2) and illegal car parking, youth annoyance, and speeding (all n=1).

"None come to mind" (Police officer 4)
"I get the feeling that people would notice what's going on and I like this area" (Police Officer 5).

Perceived emotions relating to this image were in strong agreement upon the safety of this environment; 'safe/fine/like it' (n=8), while 'none' (n=2) also featured.

"Pleasant, non-intimidating" (Police Officer 4)

Suggested improvements included 'better lighting' and 'none' (both n=5) and also neighbourhood watch (n=2). In summary, this design was perceived in a positive manner, to be relatively safe, and to possess negligible levels of fear. The few changes suggested also reinforce the preference and liking for this particular design.

11.2.9 Image 9. 'Terraced Housing B'.

The residents were perceived to be a mixture of the employed and the unemployed (both n=4). The nature of employment was perceived to be low-paid manual/unskilled.

"People from low-income employment live here" (Police Officer 5)

Ten different socially acceptable activities were mentioned including pedestrians (n=3), traffic and children playing (both n=2) and others such as daily routines, deliveries, 'nothing' and gardening (all n=1). Wide-ranging socially unacceptable or illegal activities cited were youths congregating and loitering (n=5), car-related

crime and criminal damage (both n=2), drug dealing, burglary, under-age drinking, litter and parking offences (all n=1).

"This area would have a high burglary rate" (Police Officer 5).

Feeling 'unsafe/wary/don't like it' (n=3) was as common as feelings of 'safety/comfortable/like it' (n=3). Other feelings and emotions mentioned were 'none' (n=2) and 'pity' and heightened emotional awareness (both n=1).

"Depressing area – gratitude that I don't live there – no concerns regarding personal safety, however" (Police Officer 4).

Proposed improvements were dominated by better lighting (n=6) and renovating the derelict property (n=5). Neighbourhood watch and 'none' (both n=2) were also cited along with rubbish removal, CCTV, and open plan gardens (all n=1).

"Address void housing issues" (Police Officer 4)
"Off-road parking, 'defensible space' and small area of front gardens" (Police Officer 9).

In general, crime/deviancy levels were high, although again, the fear of crime was not a focal concern for the police officers interviewed. The proposed solution to renovate the derelict property, and the wide-ranging socially unacceptable activities, are somewhat tempered by the mixed employment status. Consequently, this design was not considered to be particularly positive or negative, and was instead, regarded in somewhat neutral terms.

11.2.10 Image 10. 'Detached Housing B'.

The police officers questioned unanimously agreed that the residents were employed (n=10), as directors and professionals.

"Employed, managing director, self-employed/successful" (Police Officer 3).

Gardening (n=6), washing the car and pedestrians (both n=3), and 'children playing' and barbecues (both n=2) were common examples of socially acceptable

activities. Talking, jogging, walking and DIY also featured (all n=1). Common unacceptable activities cited were 'none' and burglary (both n=4). Car-crime (n=3) and illegal parking, theft and youth annoyance were also cited (all n=1). In terms of potential feelings and emotions that might be felt, 'safe/ok/fine' (n=7) were dominant over 'none' (n=2). No respondents mentioned feeling unsafe or wary.

> *"Safety, pleasant, relaxed" (Police Officer 4)*
> *"Very comfortable" (Police Officer 3).*

Improvements were commonly not perceived to be necessary (n=4), although improved lighting and neighbourhood watch (n=2) were both mentioned. In summary, this design was regarded as possessing low criminogenic potential and was unanimously associated with safety and 'liking'.

> *"I like this street and if I could afford to, I would like to live there" (Police Officer 5).*

Few changes were proposed and a distinctly positive, safe, secure and pleasant image was observed.

11.2.11 Overview

In general, the perception of the images can be divided into three groupings. The first group is composed of designs that were perceived to be 'positive', in terms of employment, low crime/deviancy levels, perceived safety and limited suggested improvements. This 'positive' group includes:

Image 2 - Terraced A
Image 4 - Detached A
Image 8 - Semi-detached A
Image 10 - Detached B

The second group was perceived to be more neutral, being neither safe nor unsafe, and not regarded as being overtly negative or positive.

Image 6 - Low-rise/Walk-up flats A
Image 7 - High-rise flats B
Image 9 - Terraced B.

The third group was perceived in distinctly negative terms, as being highly criminogenic, unsafe and in need of major alteration. This group consisted of the following designs:

Image 1 - High-rise flats A
Image 3 - Semi-detached B
Image 5 - Low-rise/Walk-up flats B

Clearly, the police officers' responses lend support to Newman's ideas. The SDUs were generally regarded as being much safer, more positive and less criminogenic, while the higher MDUs were largely viewed as less safe, negative and more criminogenic. In the case of the designs with 'visible signs of decay'; 'Semi-detached Housing B' and 'Low-rise/walk-up Flats B' were viewed negatively, while 'Terraced Housing B' were perceived in more neutral terms. This finding is interesting, given the clearly visible state of disrepair of the design and the positive decoding of 'Terraced Housing A' by the police officers. The quantitative section provides further insights into this aspect. Some of the suggested changes that were mentioned were also 'newmanesque' in nature, and the term 'defensible space' was actually utilised by one respondent. Improved lighting was suggested across all designs, perhaps reflecting the police force's deeper understanding of the temporal dynamics of some forms of criminality.

Perhaps not surprisingly, the police officers demonstrated very low levels of fear with respect to most designs, and commented afterwards that, as part of their occupation, no environment should engender fear. However, comments pertaining to notions of fear were particularly evident in the case of 'High-rise Flats A' (n=6), 'Low-rise/walk-up Flats B' (n=4), and High-rise Flats B' (n=3) as the quotations used above clearly illustrate. Powerful social and economic associations exist in relation to the housing designs presented – despite one respondent actually commenting:

"I will not be drawn into the trap of stereotyping" (Police Officer 9).

The qualitative responses of police officers have provided unique insights into their perceptions and associations relating to selected housing designs. The quantitative section provides a more detailed analysis and seeks to further

elaborate upon an understanding of how police officers perceive and decode urban residential space.

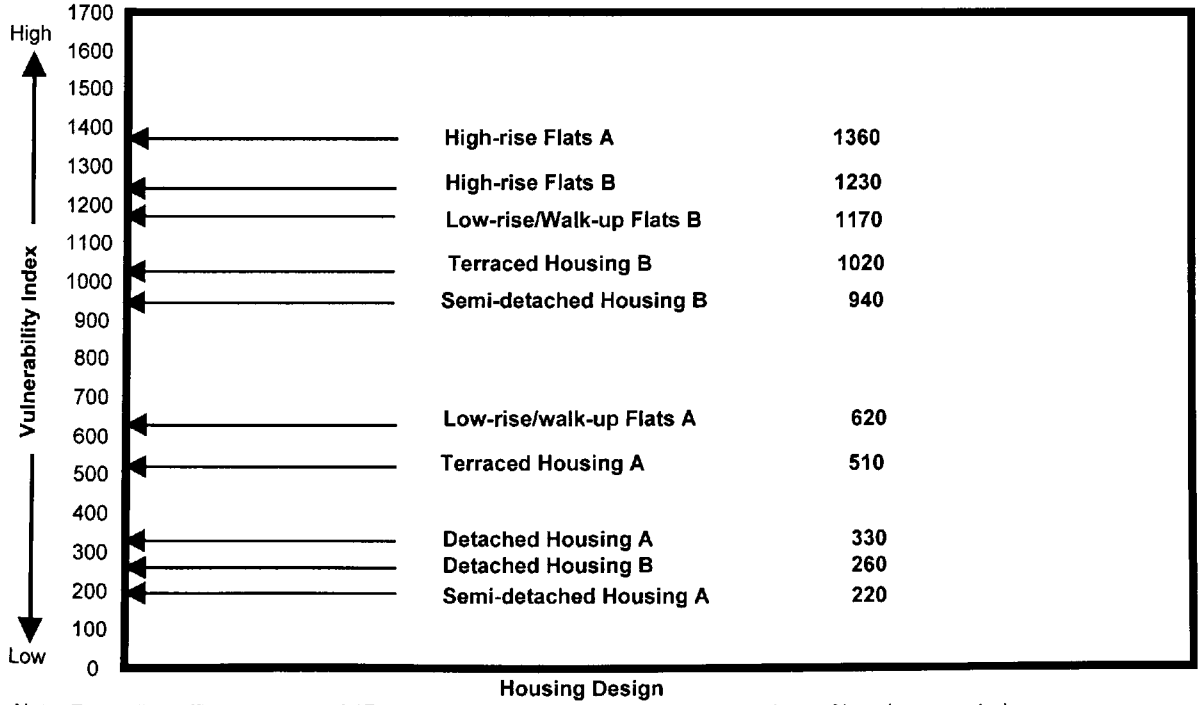
11.3 Quantitative Data Analysis

The ten police officers were asked the same eighteen questions as all other groups studied, and the results are presented and discussed below. Each of the respective bar charts is presented hierarchically to enable clear identification of patterns and trends, therefore the order in which housing type appears may change from figure to figure.

11.3.1 The 'Absolute Hierarchy of Vulnerability'

Analysis of the data reveals that, in terms of the 'Absolute Hierarchy of Vulnerability', the police officers perceived five designs to be particularly vulnerable to crime and deviancy. These were "High-rise Flats A', 'High-rise Flats B', Low-rise/walk-up Flats B', 'Terraced Housing B', and 'Semi-detached Housing B'. The five remaining designs were perceived to be significantly less vulnerable and are as follows; 'Low-rise/walk-up Flats A', Terraced Housing A', 'Detached Housing A' and 'B' and 'Semi-detached Housing A'. Figure 11.3.1 clearly illustrates this point.

Figure 11.3.1 The 'Absolute Hierarchy of Vulnerability'



Note: Ten police officers answered 17 questions, which were scored, expressed as a % and aggregated.

Table 11.3.1 reveals that the aggregated data provided by this group clearly supports Newman's ideas, particularly with reference to MDUs. 'High-rise Flats A', 'High-rise Flats B' and 'Low-rise/walk-up Flats B' are perceived as possessing a far greater criminogenic capacity than all the other designs. The 'private' and well-maintained image of 'Low-rise/walk-up Flats A' may partially explain the lower perceived vulnerability score. Conversely, the well-maintained 'Semi-detached Housing A' was considered to be the least vulnerable, by a wide margin, along with 'Detached Housing B' and 'Detached Housing A'. Furthermore, MDUs were perceived as generally far more criminogenic than SDUs. When combined, the 'High-rise flats 'A' and 'B' (1360+1230 = 2590/3400) were considered to significantly more vulnerable than 'Detached Housing 'A' and 'B' (260+330=590/3400). The relatively high vulnerability score of 'Semi-detached Housing B' is in sharp contrast to 'Semi-detached Housing A' and may be explained by the clear and visible 'signs of decay' and dereliction in this poorly-maintained image. 'Signs of decay' will be discussed in greater detail in section 11.3.4. Table 11.3.1 presents the perceived vulnerability scores for each of the five design types.

Table 11.3.1 Housing Design and Perceived Vulnerability

Most Criminogenic design	Housing Design	Score (out of 3400)
↑	High-rise Flats A and B	2590
	Low-rise/walk-up Flats A and B	1790
	Terraced housing A and B	1530
	Semi-detached housing A and B	1160
Least criminogenic design ↓	Detached housing A and B	590

Note: The score for each design type was aggregated to produce a maximum score of 3,400.

Newman, in '*Defensible Space*' (1973) claimed that high-rise and low-rise/ walk-up flats, contained design elements that might sponsor and encourage criminal activity, rather than discouraging it. The results presented in Table 11.3.1 reveal that police officers decoded the images in accordance with Newman's basic

findings, and 'High-rise Flats A and B' were considered to be the most vulnerable design type by far. Further support is provided in the qualitative section (see sections 11.2.1 and 11.2.7), where some concern for safety was expressed, while section 11.2.5 stresses a necessity for changes of a distinctly 'newmanesque' variety. Some knowledge of his theory, would certainly be held by one of the respondents in his capacity as 'Architectural Liaison Officer', while other elements of 'defensible space' may receive coverage as part of the police officers training, or may be transmitted in casual discussion. A more detailed analysis of the perceived defensible space qualities of each design can provide some further insights into this issue.

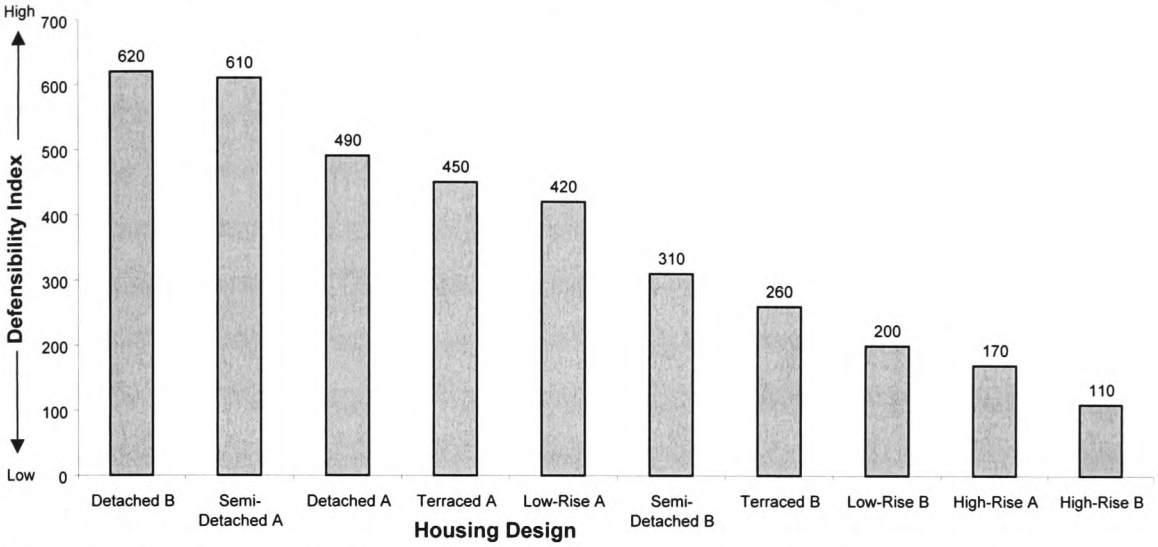
11.3.2 Perceptions of Defensible Space

Figure 11.3.2 illustrates the perceptions regarding 'defensible space'. 'Detached Housing B' is clearly perceived as the most defensible design with a rating of 620 out of 700, closely followed by 'Semi-detached Housing A' (610/700). 'Detached Housing A' (490), 'Terraced Housing A' (450) and 'Low-rise/walk-up Flats A' (420) were all considered to posses relatively high levels of defensibility. Five other designs were, however, considered to possess noticeably lower levels of defensibility. These were 'Semi-detached B' (310) 'Terraced Housing B' (260), 'Low-rise/walk-up Flats B (200), 'High-rise Flats A (170), and the least defensible design; 'High-rise Flats B (110). The hierarchy in terms of defensibility, closely resembles the 'Absolute Hierarchy of Vulnerability' (see Figure 11.3.1) and suggests that 'defensible space' qualities are important elements in determining the overall image and vulnerability perceived for each design.

Significantly, the 'Low-rise/walk-up Flats A' were perceived as being significantly more defensible than 'Low-rise/walk-up Flats B', which possessed a lower standard of maintenance, and was considered the poorest, in terms of defensibility. Furthermore, the high-rise designs were considered to be the least defensible of all the designs, firmly supporting Newman. Again, the better-maintained versions of most designs were considered as more defensible than their care-worn counterparts. However, 'Detached Housing B' was considered to be less vulnerable (see Figure 11.3.1) and more defensible (see Figure 11.3.2) than 'Detached Housing A'. The high wall, 'fortress-like', and overtly private appearance may partially explain this. The high exterior boundary wall appears to

have affected perceived levels of surveillance. Some responses in the qualitative section (11.2.4) were concerned about the reduced potential for residential interaction and intervention associated with this design feature

Figure 11.3.2 Perceptions of Defensible Space



Note: Ten police officers answered 7 questions, which were scored, expressed as a % and aggregated.

The well-maintained 'Terraced Housing A' scored 510/1700 in the 'Absolute Hierarchy of Vulnerability', representing relatively low vulnerability. This design was also perceived to be a highly defensible design, scoring 450/700, which was marginally lower than 'Detached Housing A'. This design may well warrant further consideration in terms of housing developments for high-density populations. However, the poor score of 'Terraced Housing B' (260), reiterates the highly complex nature of attempting to evaluate elements of physical design. The importance of real estate management and the ongoing maintenance of property are therefore restated and Wilson and Kelling's 'Broken Windows' (1982) thesis is again reinforced. Newman's theory is also supported in this regard since the 'image' of the design has clearly influenced the perceived criminogenic potential.

11.3.3 The 'Absolute Hierarchy of Vulnerability' and 'Expected Burglary'

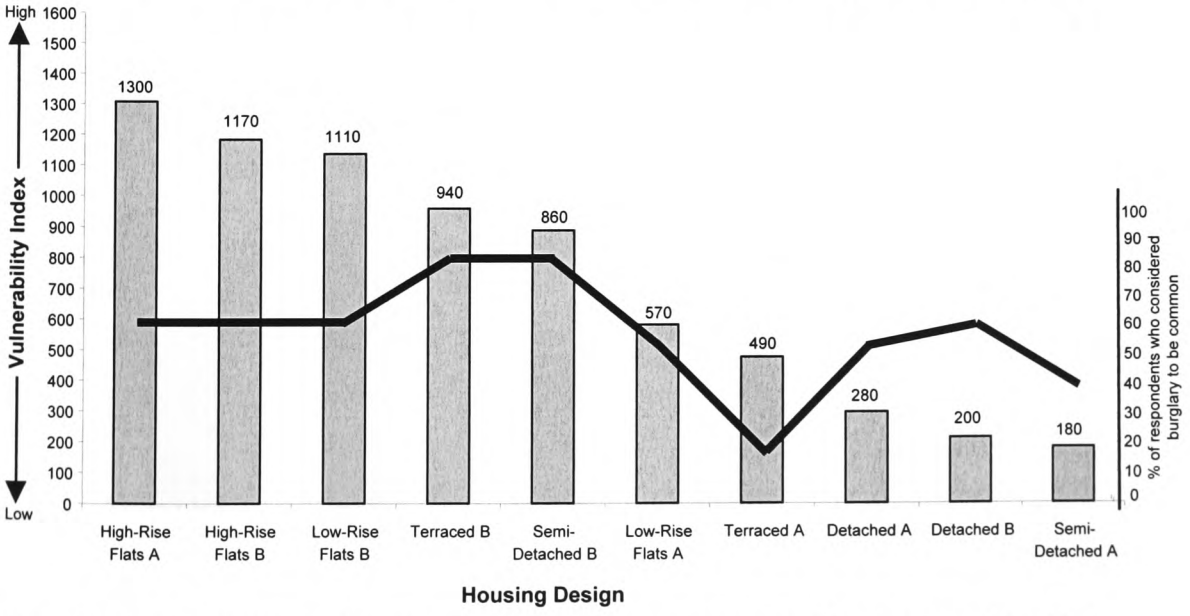
As already discussed, reference to Figure 11.3.1 reveals that 'Semi-detached Housing A' is perceived as being the safest and is highly defensible (Figure 11.3.2). This design engendered the least fear (see Figure 11.3.5), and was also one of the most frequently preferred in terms of where respondents expressed a personal desire to live (see Table 11.3.2). Figure 11.3.3 illustrates not only the

'Absolute Hierarchy of Vulnerability', but also introduces an additional dimension to represent the level of anticipated burglary for each design type. This is represented as a percentage and provides further insights into the perceptions of this intriguing sample group, suggesting that yet further considerations are required to fully understand how 'defensible space' is viewed and interpreted by police officers.

As can be seen in Figure 11.3.3 police officers perceived burglary to be more common in some designs than others. Expected burglary rates ranged from 20% ('Terraced Housing A') to 80% ('Semi-detached Housing B' and 'Terraced Housing B'). It is apparent that 'Terraced Housing A' is perceived to possess the lowest possibility of burglary, while 'Terraced Housing B' is regarded potentially to have the highest rates of burglary. The influence of the 'visible signs of decay' upon perceptions may explain this. This pattern is also apparent for all other designs, with the exception of the high-rise flats, which were perceived to possess the same potentially high burglary levels for versions 'A' and 'B'.

Figure 11.3.3

The 'Absolute Hierarchy of Vulnerability' and 'Expected Burglary'



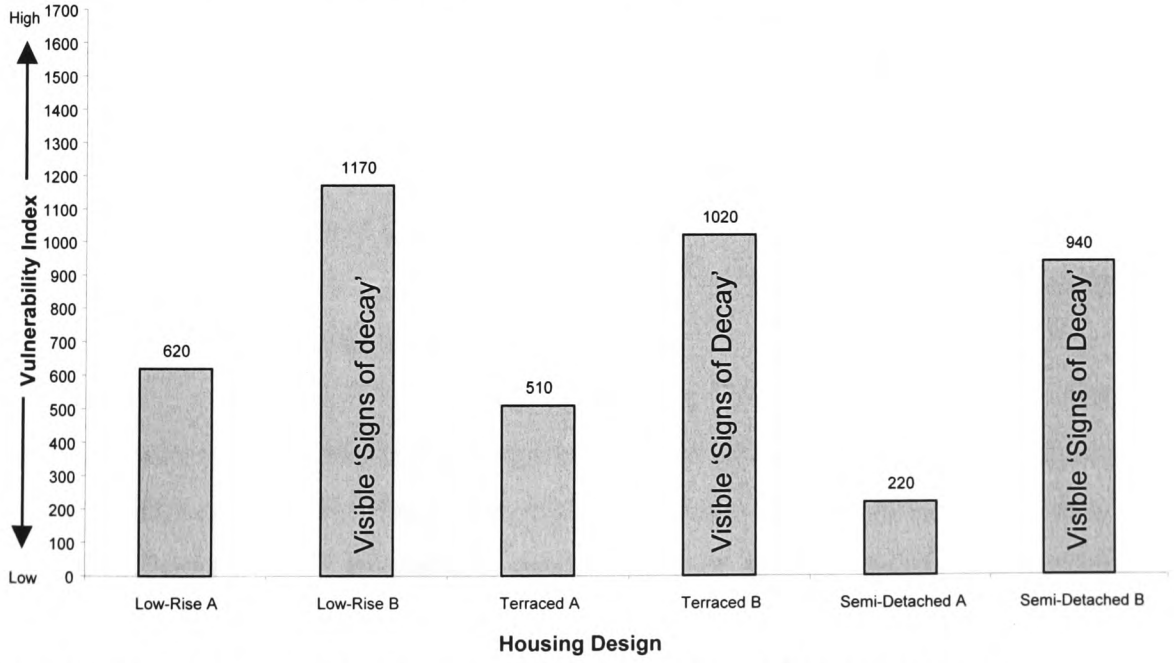
Note: Ten police officers answered 16 questions, which were scored, expressed as a % and aggregated. The black line represents responses to a separate question and superimposes 'expected burglary' levels onto each design.

However, burglary was considered to be more prevalent in the three designs graded as least vulnerable in the 'Absolute Hierarchy of Vulnerability'. These were 'Semi-detached Housing A' (40%). 'Detached Housing A' (50%), and 'Detached Housing B' (60%). The notion of increased reward may well be influential, or possibly the experience of the police is informing them in this matter. The data for expected burglary broadly reflects the trend in the 'Absolute Hierarchy of Vulnerability'. However, 'Semi-detached Housing B' and 'Terraced Housing B' distort the trend upward, while 'Terraced Housing A' distorts this trend in a downward direction. Indeed, further support for this particular design is evident in relation to the perceptions of police officers. 'Image' appears to be a highly complex phenomenon which is only partly related to expected levels of burglary.

11.3.4 Signs of Decay and Comparing Design 'A' with Design 'B'

Three of the ten images selected for this research deliberately contained visible 'signs of decay', such as boarded-up windows or graffiti, that are clearly visible to the respondent viewing the images. The comparison of such designs with their well-maintained counterparts, introduces interesting issues that are worthy of note.

Figure 11.3.4 Visible Signs of Decay, Design and Vulnerability



Note: Ten police officers answered 17 questions, which were scored, expressed as a % and aggregated

The poor quality 'Semi-detached Housing B' is considered to be significantly more vulnerable than 'Semi-detached Housing A'. Similarly, 'Terraced Housing B' is also considered to be more vulnerable than 'Terraced Housing A'. Finally, 'Low-rise/walk-up Flats B' are also clearly perceived as being considerably more vulnerable to crime than its well-maintained counterpart.

Reference to Figure 11.3.1, the 'Absolute Hierarchy of Vulnerability', demonstrates that three out of the five less well-maintained examples were considered as blatantly more criminogenic than their well-maintained counterparts. This was not the case for both 'Detached Housing' and 'High-rise Flats', where design 'A' was considered more vulnerable than design 'B'. This can be explained by the perceived 'fortress-like' features in 'Detached Housing A' and the 'hard' image of the concrete structure 'High-rise Flats A'. Significantly, these design types did not possess 'visible signs of decay' and were not so visually differentiated as those that did. Consequently, the perception of 'A' and 'B' for these two designs is not so clearly polarised. Further research may well be necessary into this aspect of design and perception.

It is apparent that 'defensible space' has been underpinned by this data. MDUs and all designs exhibiting 'visible signs of decay' were perceived as being less defensible than other designs. In terms of 'image' and building height, Newman's ideas are confirmed.

11.3.5 Fear of Crime and Design

Figure 11.3.5 provides a graphical representation of the three questions asked which focused on the fear of crime.

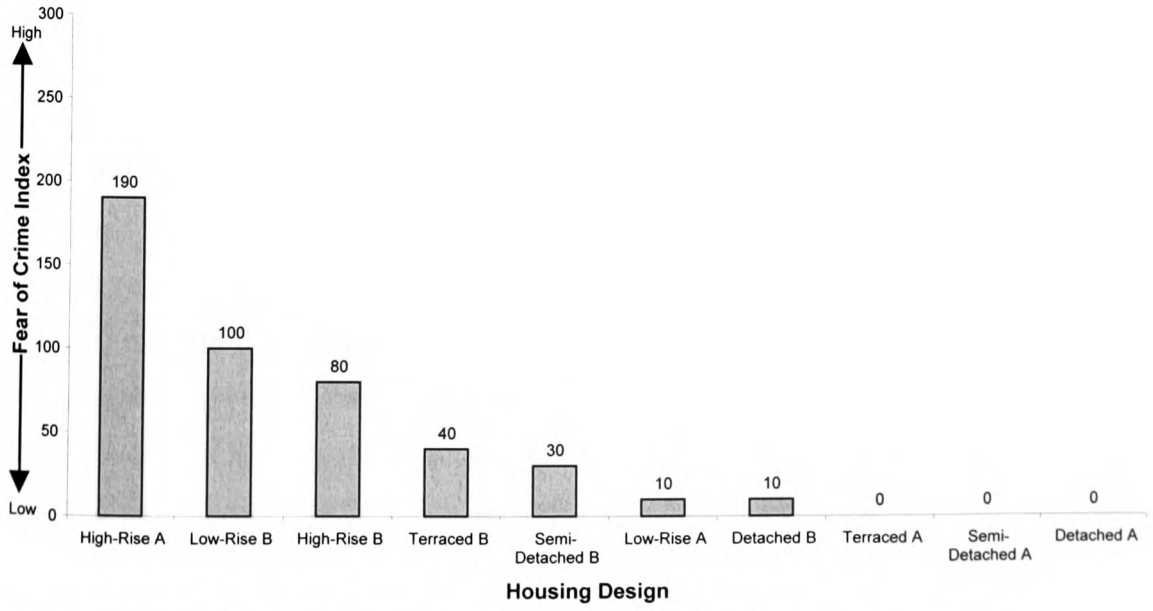
Fear of crime appears to exist at extremely low levels overall and be subject to considerable variation for this group of police officers. The total fear level was 460/3000, representing an average group fear level of only 15.3%. The nature of police training and their everyday activities carried out, is a probable explanation for their necessarily low levels of fear, as was remarked by one officer, after interviewing had been completed. Various studies have found fear levels to be generally lower in men (Hale, 1996; Goodey, 1997; Mirrlees-Black *et al.*, 1998), and therefore this trend may also partially explain these findings. It is therefore of

increased significance that the police officers clearly associated high levels of fear with 'High-rise Flats A' (190). Recent renovation and improvement in the fabric may explain the lower score for 'High-rise Flats B' (80), which is nonetheless relatively high, as was the score for 'Low-rise/walk-up Flats B' (100). The negligible levels of fear for 'Low-rise/walk-up Flat A' (10) may be explained by the 'private' nature and well-maintained appearance. No fear of crime was perceived with regard to 'Detached Housing A', 'Semi-detached Housing A' and, significantly, 'Terraced Housing A'.

Variation in terms of each design type was significant, as Figure 11.3.5 illustrates. Levels of fear seem to closely reflect the 'Absolute Hierarchy of Vulnerability' (Figure 11.3.1).

In general, the four MDU's were again more prominent, with a total fear level of 380/900 and an average score of 127/300. Such designs engender significantly higher levels of fear than the six SDU's, which totalled just 80/900, and averaged 13/300. This data therefore provides further support for Newman's position (Newman, 1973; Newman and Franck, 1980, 1982), in the analysis of MDUs and also demonstrates further support for the performance of terraced housing as a plausible design for housing high-density populations.

Figure 11.3.5 The Fear of Crime



Note: Ten police officers answered 3 questions, which were scored, expressed as a % and aggregated

11.3.6 Residential Preferences

Reference to Table 11.3.2 reveals that the police officers interviewed possess a strong desire to reside in only half of the designs; 'Detached Housing A' (90%), 'Detached Housing B' (90%),'Semi-detached Housing A' (80%), 'Low-rise/walk-up Flats A' (30%) and 'Terraced Housing A' (20%). The police officers were in overwhelming agreement that they would prefer not to reside in any of the following designs; 'High-rise Flats A', 'High-rise Flats B', Low-rise/walk-up Flats B', 'Terraced Housing B', and 'Semi-detached Housing B' (0%).

Preference and perceived vulnerability appear to be intricately interwoven, particularly when comparing this data with the 'Absolute Hierarchy of Vulnerability'. Table 11.3.2 illustrates the preferences of the police officers interviewed.

Table 11.3.2 Residential Preferences

Image	% who said they would like to live here
Low-rise/walk-up flats B	0
High-rise flats B	0
High-rise flats A	0
Terraced Housing B	0
Semi-detached Housing B	0
Terraced Housing A	20
Low-rise/walk-up flats A	30
Semi-detached Housing A	80
Detached Housing B	90
Detached Housing A	90

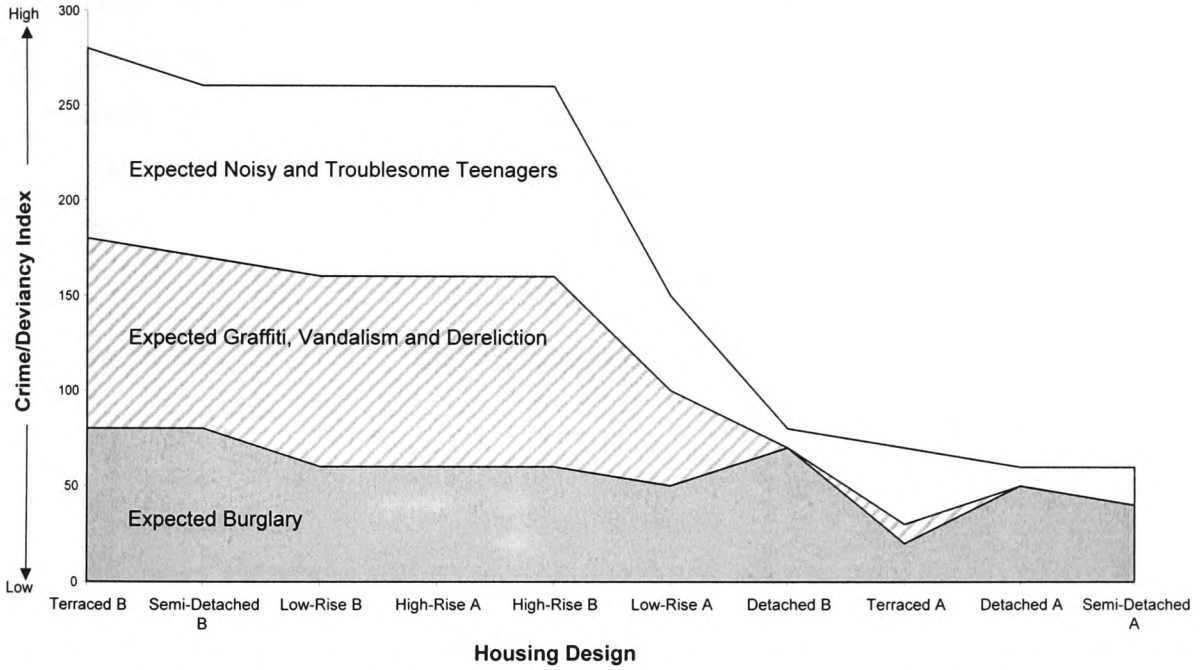
Note: Ten police officers answered one question, which was scored and expressed as a %.

11.3.7 The Crime/Deviancy Index

Figure 11.3.6 below, illustrates the results for the three questions designed to probe perceived crime/deviancy levels. There appears to be a broad pattern that largely reflects the 'Absolute Hierarchy of Vulnerability' and the trends found in the qualitative analysis. The five designs which were regarded as being more 'negative', predictably possessed high levels of expected crime/deviancy. Conversely, those perceived to be more 'positive' have lower levels of expected crime/deviancy. Perhaps most significantly however, the designs with clear visible 'signs of decay' ('Terraced Housing B', 'Semi-detached Housing B', and 'Low-

rise/walk-up Flats B') were associated with the highest levels of potential crime, disorder and deviancy. The 'Broken Windows' theory (Wilson and Kelling, 1982), is undoubtedly reinforced, and, considering the police officer is on the 'front-line' of crime prevention, such a finding may certainly interest planning professionals and other 'managers' of the urban fabric. Furthermore, the 'image' element of 'defensible space' theory is similarly vindicated in this regard. The two high-rise flats, which were similarly expected to possess high levels of crime, also support Newman's basic thesis.

Figure 11.3.6 The Crime/Deviancy Index



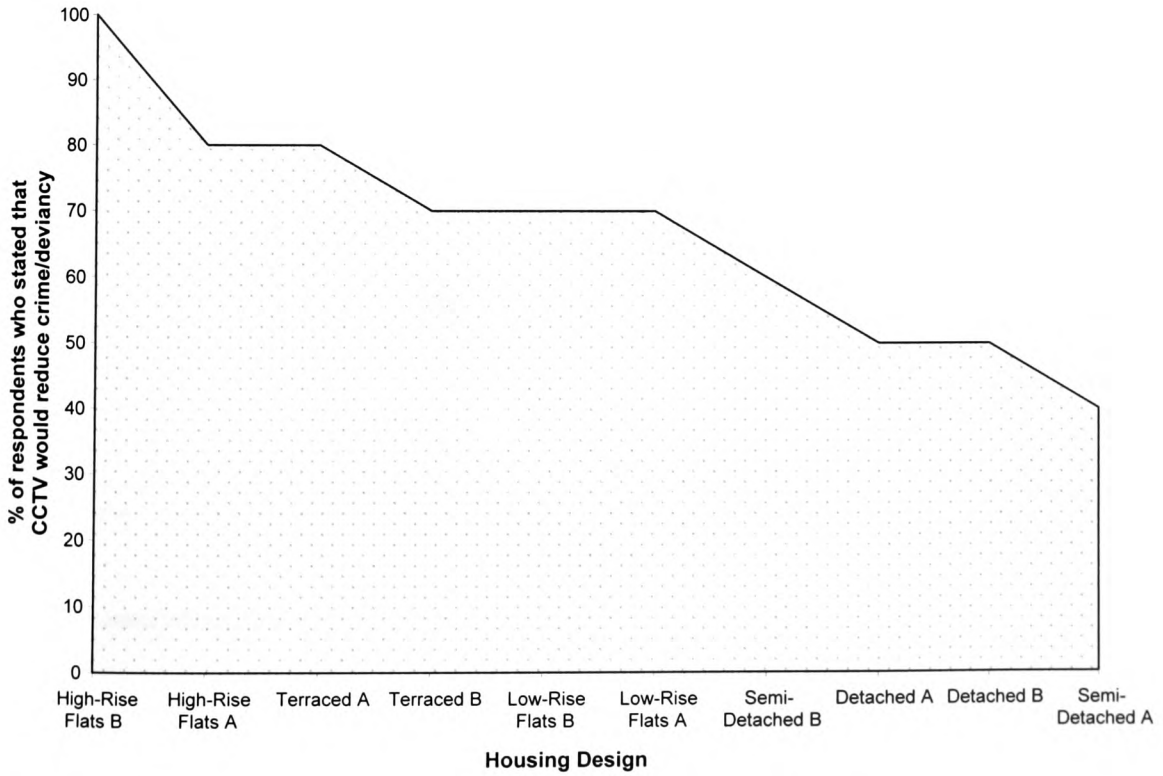
Note: Ten police officers answered 3 questions, which were scored, expressed as a % and aggregated

Noisy, troublesome teenagers and graffiti/vandalism/dereliction were all perceived to exist at high levels in the five most vulnerable designs, and perceptions fall dramatically as the designs become safer. Significantly, graffiti, vandalism and dereliction were not expected to exist at all in the three least vulnerable designs ('Detached Housing A', 'Detached Housing B' and 'Semi-detached Housing A'), while minimal amounts were expected in 'Terraced Housing A'. Burglary, however, was nevertheless anticipated and reference to Figure 11.3.6 shows how the two detached designs significantly distort the burglary data trend upward, while Terraced Housing A' distorts it downward. Furthermore, for the police officers interviewed, MDU's were not considered to be particularly prone to burglary.

11.3.8 The Perceived Effectiveness of CCTV

There appears to be pronounced agreement concerning the overall effectiveness of CCTV in reducing socially unacceptable and illegal behaviour, with a total of 670/1000, (67%) believing CCTV to be effective all ten designs. In terms of particular designs, however, CCTV was perceived to be a particularly useful tool for reducing crime/deviancy in the high-rise MDUs (see Figure 11.3.7). It was also perceived to be potentially effective in 'Terraced Housing A' and 'B' (80 and 70%) and 'Low-rise/walk-up Flats A and B (70%). It would appear that as perceived vulnerability decreases, the utility and effectiveness of, or necessity for CCTV, is seen to decline, with perhaps the exception of 'Terraced Housing A' and 'Semi-detached Housing B'. CCTV installations in residential areas tend to be predominantly located amongst those designs that are least vulnerable to crime and more able to afford these and other preventative measures. Notwithstanding the obvious civil liberties considerations, such data warrants further research and deliberation.

Figure 11.3.7 The Perceived Effectiveness of CCTV

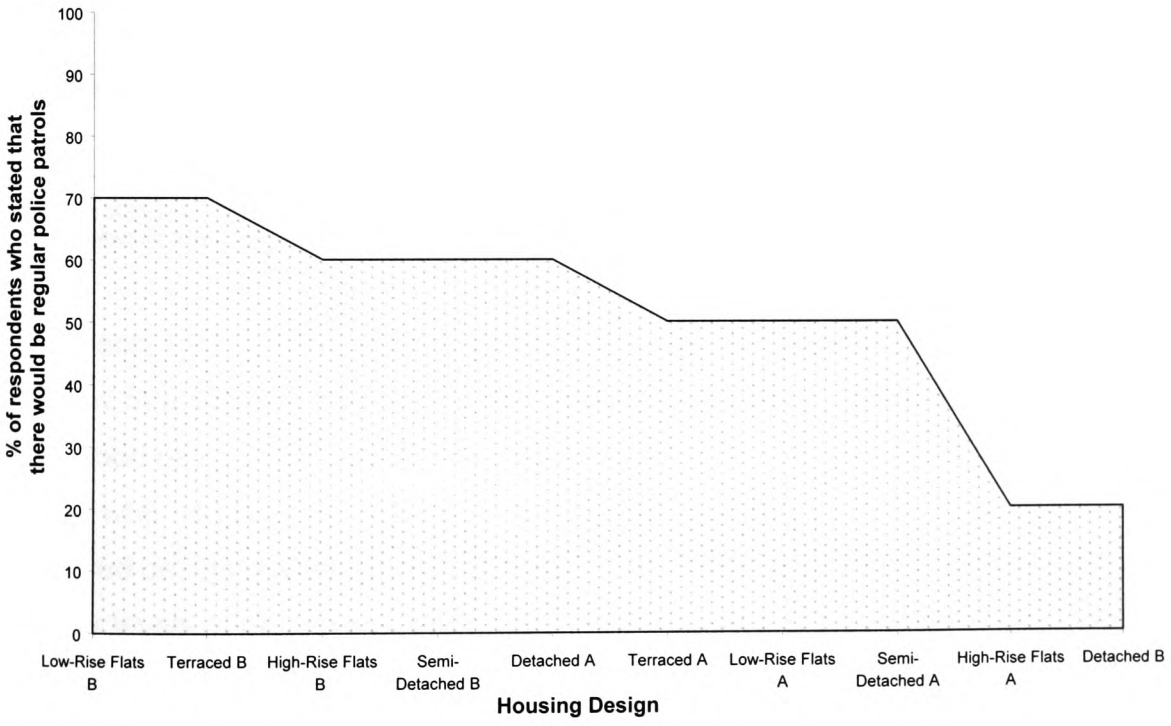


Note: Ten police officers answered one question, which was scored and expressed as a %.

11.3.9 Regular Police Patrols

Approximately half the police officers anticipated that police patrols would be regular across all ten designs, with a total of 510/1000 (51%). Variation across the design typologies was also evident, but little discernible pattern can be discovered. Indeed, the anticipated presence of police patrols only marginally reflects the 'Absolute Hierarchy of Vulnerability' (Figure 11.3.1). Figure 11.3.8 demonstrates that regular police patrols are regarded as being common in 'Low-rise/walk-up Flats B' (70%), 'Terraced Housing B' (70%) and in most other designs, the rate was 50% or above. However, police patrols were not expected to be common in 'High-rise Flats A' (20%) or 'Detached Housing B' (20%). Perhaps the location of both designs on a major through-road negated the perceived need for such patrols.

Figure 11.3.8 Regular Police Patrols



Note: Ten police officers answered one question, which was scored and expressed as a %.

The perception of the police officers, in relation to police patrols, seems to be a highly complex area. Discussion after the interviews, revealed that they were mindful of a shift in the actual operational make-up of patrols, from pedestrianised to predominantly motorised patrols.

11.3.10 Residential Experience and the 'Absolute Hierarchy of Vulnerability'

Table 11.3.3 below, reveals how residential background may have influenced the perception of each image.

Table 11.3.3

Residential Experience and the 'Absolute Hierarchy of Vulnerability'

		Hierarchy of Vulnerability score for Police officers who stated they ***had*** resided in such deigns	Hierarchy of Vulnerability score for for Police officers who stated they ***had not*** resided in such designs
Terraced	A	1410	800
	B	1450	1270
	Average	**1430**	**1035**
Semi-	A	520	1400
Detached	B	1110	1530
	Average	**815**	**1465**
Detached	A	470	1560
	B	420	1540
	Average	**445**	**1550**
Low-rise/	A	-	620
Walk-up flats	B	-	1170
	Average	**-**	**895**
High-rise flats	A	-	1360
	B	-	1230
	Average	**-**	**1295**

Note: The 'Absolute Hierarchy of Vulnerability' perceived by each respondent was calculated and presented in terms of whether they had stated they had lived in the design type or not.

It appears that residential background does affect the overall perception of each design, in a complex manner. Those who had not resided in semi-detached or detached designs perceived these designs to be significantly more vulnerable than those who had lived in such designs. This trend is reversed with reference to the terraced designs, where those with residential experience of this design exhibited higher levels of perceived vulnerability. This pattern is not easily explained, and further research may be necessary in this regard. No police officers had resided in MDUs, be they low-rise/walk-ups or high-rise flats. Consequently no comparison can be made. The lack of any significant influence of housing experience upon the 'Absolute Hierarchy of Vulnerability' of all designs may be explained partially by the increased exposure to residential building types as a result of the operational policing activities in markedly different residential areas.

11.3.11 Crime Experience and Fear of Crime

When crime experience data is presented with the quantitative data collected on the fear of crime, an interesting outcome is observed, and this is demonstrated in Table 11.3.4. The three fear of crime questions generate a total score of thirty as an 'Individual Fear Level' for each police officer, which could then be averaged and expressed as percentage. This percentage therefore indicates the perceived group level of fear across all designs, as expressed by those who had been victims of crime and those who had not.

Table 11.3.4 Crime Experience and Fear of Crime

Those who were victims of crime in 1999	
Police Officer Number	Individual Fear Level (maximum of 30)
4	5
Total 1 x 3 questions	5/30
Group Fear level expressed as a %	**16.7 %**

Those who were *not* victims of crime in 1999	
Police Officer Number	Individual Fear Level (maximum of 30)
1	4
2	3
3	1
5	0
6	11
7	8
8	7
9	1
10	6
Total 9 x 3 questions	41/270
Group Fear level expressed as a %	**15.2 %**

The minority who were victims of crime in 1999 were only marginally more fearful than those who had not experienced crime. The same calculations were also applied to the other three crime experience questions. The group fear level for those who were victims of crime before 1999 was 13%, contrasting with those that had not, where the level was 23%. All police officers interviewed stated that they knew people who had been victims of crime in 1999, and prior to 1999. A comparison in this regard is therefore not useful. Clearly, the knowledge of victims and the previous victimisation seems not to influence the police officers to any

significant level. The generally low levels of perceived fear of crime expressed by the police officers suggests that their training and operational activities discourage 'fear' in the environment, which is, perhaps, refreshing.

11.3.12 Summary

Perception of the built environment is again found to be a highly complex and intricate phenomenon. Social messages and associations are clearly being constructed and utilised to contribute significantly to the overall 'image' of the design that the police officers exhibited. Newman's theory of 'Defensible Space' is supported with regard to the perceptions of low-rise/walk-up flats and high-rise flats, and also for terraced, semi-detached and detached housing. Increased levels of privacy, territoriality, maintenance and overall 'image' are, in combination, perceived to represent safer designs. Public, multiple-occupancy designs possessing lower levels of territoriality and maintenance are perceived to be more vulnerable to crime and deviancy. The 'Absolute Hierarchy of Vulnerability' has provided a most useful framework for the gradation of housing designs and reveals a clear preference for the quintessential suburban semi-detached dwelling – preferably well-maintained. The appearance of visible 'signs of decay' in selected images has been shown to be a powerful influence upon perceptions and Newman's third concept of 'image and milieu' is supported, as well as the findings of Wilson and Kelling (1982) and Kelling and Coles (1996). Furthermore, the police officers clearly regarded high-rise flats to be the most criminogenic and to engender the highest levels of fear – a characteristic *not* particularly associated with this user group. The data also reveals that the police officers considered the well-maintained terraced design to possess relatively low levels of vulnerability, expected burglary, fear of crime and it was considered to be highly defensible. Indeed, the 'defensible space' qualities of such a design has recently been highlighted (Steventon, 1996). However, this design was not the preferred residential choice of this group. Nevertheless, such data is certainly significant, particularly regarding the ongoing debate concerning the suggested necessity for high-density housing to meet current new household projections.

The perceptual trends uncovered by this investigation, may well be of significant interest to planners and policy makers, particularly in the light of the campaign for improved urban design (DETR, 1999) and the projected need for new households

(DOE, 1995). Furthermore, the failure of some of the design crusades of the past (Social Exclusion Unit, 1998) is testament to the powerful influence of perceptions in the stigmatisation of certain housing estates.

Police officers, as guardians and overseers of urban space, exhibited a clear and distinct pattern of understanding for the housing designs presented. The perceptions this crucial user group has provided interesting data when analysed at the individual sample group level. How space is perceived, is therefore confirmed as crucial element to 'defensible space', supporting recent research in this area (Tijerino, 1998; Ham-Rowbottom *et al.*, 1999). The responses of police officers has clearly produced a 'Stratification of Place' (Logan, 1978) for the designs presented, particularly in terms of the perceived 'defensible space' qualities of each design. The perceptions of young adults promises further insights into the criminogenic capacity of urban residential housing, and are discussed in Chapter 12.

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Chapter 12

Data Analysis, Results and Discussion. The Perceptions of Young Adults (Aged 18-25).

12.0 Data Analysis

This chapter analyses and interprets the data collected from the young adults (ages 18-25) that were interviewed.

12.1 Respondent Data Analysis

The majority of the young adults indicated they were white (n=9) and there was a balanced representation of males and females (both n=5). All of the respondents were university undergraduates, aged 18-25 and were single. All stated they had annual incomes of £3,000-7,500.

In terms of residential background the majority of respondents stated that they had lived in terraced housing (n=9), and semi-detached housing (n=7). Some had resided in detached housing (n=3) and low-rise flats and bungalows (both n=2). None of the young adults stated that they had ever resided in high-rise flats. Half were currently 'living with family' (n=5) while the other half were in 'shared accommodation' (n=5). Most (n=8) had resided in privately-owned (mortgaged) accommodation as opposed to privately-owned (outright) (n=2), private-rented (n=3) or council-rented accommodation (n=2). It is argued that personal/individual residential background may affect how housing designs are decoded and this will be discussed in section 12.3.3.

The crime experience data reveals that the majority of young adults had *not* personally experienced crime within 1999 (n=8). However, many more (n=7), had experienced it prior to 1999, and personally knew others who had been the victims of crime in 1999 (n=8), and before 1999 (n=9). This data is discussed in relation to the fear of crime presented in Table 12.3.4 in the quantitative section of this chapter.

12.2 Qualitative Data Analysis

The qualitative responses provided by the young adults yields interesting insights into their perceptions regarding the criminogenic capacity of housing designs and

are detailed below. Comparisons between all four sample groups will receive detailed deliberation in Chapter 13.

12.2.1 Image 1. 'High-Rise Flats A'

It was perceived that these tenants were more likely to be unemployed (n=5) than employed (n=2) and that they were low-paid, unskilled/semi-skilled workers. Socially acceptable and legal activities were seen be varied, and included children playing (n=6), people chatting (n=4), walking (n=3), and traffic (n=2). Socially unacceptable or illegal activities cited were also extensive and included car crime (n=7), drug dealing (n=6), vandalism (n=6), mugging (n=4) and burglary (n=3). Other minor incidents were also mentioned, such as youths loitering, swearing, under-age drinking, criminal damage/vandalism (all n=1). There was unanimity regarding the stated feelings and emotions that might be experienced while walking in the area. These were dominated by 'unsafe/wary/don't like it' (n=10) as opposed to 'safe/fine/like it' (n=0). Being watchful of youths was also a stated concern (n=2).

> *"Fear of a confrontation with gangs of youths" (Young Adult 4)*
> *"Fear, danger, isolation and paranoia" (Young Adult 8).*

Changes that were suggested included improved lighting (n=5), reducing the number of floors (n=4), CCTV, total redevelopment, the of use different colour schemes, and repainting (all n=3). The opening up of the walkways and more play areas were also mentioned (both n=2). The overall perception is predominantly negative; of an unsafe area with potentially wide ranging, frequent incidents of crime and deviancy, which respondents regarded as threatening. Extensive suggested improvements were deemed necessary in this stigmatised image where, in employment terms;

> *"Most are not working regularly" (Young Adult 5).*

12.2.2 Image 2. 'Terraced Housing A'

The residents were perceived to be employed (n=8) as semi-skilled workers and socially acceptable activities stated included children playing (n=7), chatting (n=5),

walking (n=3) and working on cars (n=2). Unacceptable activities included car crime (n=7), burglary (n=6), noisy/rowdy people (n=3), as well as vandalism and drug dealing (both n=1). A sense of safety ('safe/fine/like it' n=7) prevailed over feelings of dislike, apprehension and fear (n=3).

"Quite comfortable, houses and residents close by" (Young Adult 10)
"Quite happy to walk alone" (Young Adult 4).

Suggested improvements included painting the properties (n=4), improved street lighting (n=3), landscaping (n=3) and a general tidy up (n=2). Interestingly, one respondent called for 'improved territoriality' as a possible improvement.

"Residents taking more pride in the exterior appearance of their houses" (Young Adult 3).

The perceived image was generally one of an employed community with some incidence of crime, but low levels of fear and only minor suggested improvements.

12.2.3 Image 3. 'Semi-detached Housing B'

The residents were perceived to be employed (n=8) as semi-skilled or unskilled workers, rather than unemployed (n=2). Socially acceptable activities were perceived to be wide-ranging, and included children playing (n=7) chatting (n=3), gardening, vehicle traffic and walking (all n=2), in addition to barbecues and sunbathing (both n=1). Potentially unacceptable activities included vandalism/criminal damage (n=5), burglary (n=4), car theft (n=2), and drug dealing (n=2). Noise, graffiti, swearing, personal attack and handling stolen goods were also mentioned (all n=1). Feelings and emotions were dominated by 'unsafe/wary/don't like it' (n=8), rather than 'safe/fine/like it' (n=1).

"A deprived area, dirty surroundings" (Young Adult 4),
"Nervous, worried, scared" (Young Adult 9).

Suggested changes were strongly dominated by the renovation and upgrading of the derelict property (n=9) and improved street lighting (n=5). Other suggestions included painting and a general clean-up (both n=1). A wide range of crime and

deviancy were believed to exist in this image and levels of fear were high. Renovating the derelict property was a common response and a negative image prevailed. The visible 'signs of decay', which are clearly discernible, appear to be highly influential.

12.2.4 Image 4. 'Detached Housing A'

Universal agreement existed concerning the perceived employed status of these residents (n=10), who were anticipated to be professionals such as company directors, doctors and businessmen. Socially acceptable activities were perceived to be extensive and included gardening (n=4), children playing and barbecues (both n=3) and chatting, dog-walking, traffic and everyday activities (all n=2). Unacceptable or illegal activities that were perceived to exist to a lesser extent included 'none' (n=5), car crime (n=5) and dogs messing, white-collar crime and personal attack (all n=1). The young adults believed the image to be positive and safe (n=9) as opposed to negative and engendering fear (n=1).

"Happy, feel pretty safe" (Young Adult 2)

Some felt that no improvements were necessary (n=5), while others stated the perceived need for improved lighting (n=4) and the necessity to reduce the height of the exterior wall (n=3). Indeed, visibility concerns, segregation and a sense of feeling unwelcome were also associated with this design feature.

"I would feel safe, although the high walls restrict visibility" (Young Adult 10)

In summary, this image was perceived as being the property of high status business and management professionals, engendering low levels of fear and possessing minimal incidents of crime and deviancy. The design was regarded as pleasant and safe, with few design improvements suggested, however, the high exterior wall did generate several comments.

12.2.5 Image 5. 'Low-Rise/Walk-up Flats B'

The young adults interviewed overwhelmingly agreed that the residents in this image were unemployed (n=9), rather than employed (n=1). Socially acceptable activities included children playing (n=6), chatting (n=3), and walking, traffic,

cleaning cars and deliveries (all n=1). Perceived unacceptable and illegal activities were wide-ranging and were dominated by drug dealing (n=7), vandalism (n=7), car-crime (n=5), graffiti (n=4), burglary (n=3) and mugging (n=3). Minor incidents of alcohol abuse, swearing and fighting were also mentioned (all n=1). Fear levels were high, and the responses were dominated by feeling 'unsafe/wary/don't like it' (n=9), rather than 'safe/ok/like it' (n=1).

"Terror" (Young Adult 9), "Frightened and apprehensive" (Young Adult 7) "Nervous and watchful" (Young Adult 5).

Various improvements were proposed and these included improved street lighting (n=5), modernisation/improvement (n=3) and CCTV, removal of graffiti and landscaping (all n=2). In general, this image was perceived to possess high levels of fear and was regarded as being highly criminogenic. An overtly negative image pervaded and suggested improvements were wide-ranging.

12.2.6 Image 6. 'Low-Rise/Walk-up Flats A'

The majority of respondents believed the residents to be unemployed (n=7), rather than employed (n=3). Socially acceptable activities included children playing (n=6), chatting (n=6), washing the car and vehicle traffic (both n=2). Unacceptable, illegal activities included car-crime, burglary, and drug dealing (all n=3) petty crime and vandalism (both n=2) and noise, alcohol abuse, fighting, swearing and graffiti (all n=1). Those who felt 'unsafe/wary/don't like it' (n=7) dominated those who felt 'safety' and 'liking' (n=2).

"I would not like to live here" (Young Adult 3)

Suggested changes were dominated by improvements to lighting (particularly in the car park) (n=5), 'colour/brighten the look' (n=4), demolition/redevelopment (n=3) and landscaping (n=3).

"Knock it down and build a park" (Young Adult 1)

Overall, this image was believed to possess wide-ranging incidents of crime and deviancy, high levels of fear and predominantly negative dimensions concerning the nature of the residents;

"Poor people" (Young Adult 1).

12.2.7 Image 7. 'High-Rise Flats B'.

The residents were perceived to be predominantly unemployed (n=7), rather than employed (n=2). Socially acceptable activities include children playing (n=6), chatting (n=3), 'everyday life' (n=3), vehicle traffic and walking the dog (both n=2). Perceived socially unacceptable and illegal activities were varied, and included drugs, car-crime and vandalism (all n=4), burglary and gangs drinking (n=2). Also cited were selling stolen goods, arguing, swearing and personal attack (n=1).

"Drug dealing, harbouring stolen goods and fighting" (Young Adult 2)

Feelings and emotions mentioned were 'unsafe/wary/not like it' (n=8), as opposed to notions of safety; 'safe/ok/like it' (n=2).

"Scared, not really wanting to go near it" (Young Adult 2)
"Nervous, very scared and worried" (Young Adult 9).

Improvements to the design included better lighting, more play areas and reducing the height of the buildings (all n=2). Other ideas included a different colour scheme, demolition and more openings and access points (all n=1).

"I would not like to live at the top of that" (Young Adult 1).

In general, this design was perceived to be highly criminogenic and to engender distinct notions of fear and apprehension. This design produced a highly negative image of crime and unemployment and notions of 'anything goes'. Indeed the following quotation provides a succinct summary of the perceptions of one particular young adult regarding socially unacceptable activities that may occur.

"Sex and drugs and rock and roll !" (Young Adult 1)

12.2.8 Image 8. 'Semi-detached Housing A'.

There was unanimous agreement upon the perceived employed status of these residents (n=10), who were believed to be 'well-paid' professionals such as teachers and office workers.

"Employed office workers and high-paid jobs" (Young Adult 2.)

Socially acceptable activities anticipated by the young adults included gardening (n=5), children playing (n=5), walking (n=4) and washing the car and chatting (both n=2). Illegal, socially unacceptable activities cited included car-crime (n=4), none (n=3), and burglary (n=2). Others included drunkenness, noise, drug dealing, graffiti, litter, vandalism and personal attack (all n=1). However, feelings of safety and 'liking' (n=9) were widely expressed.

"Unscared, confident" (Young Adult 2)
"Ease and comfort" (Young Adult 8).

Suggested improvements were dominated by 'none' (n=7) but also included 'better lighting' (n=3). In summary, this design was predominantly perceived in a positive manner, and, despite some potential incidents of crime, it was regarded as being relatively safe, and to possess negligible levels of fear. The few changes suggested also reiterate the young adults' preference and liking for this design.

12.2.9 Image 9. 'Terraced Housing B'.

The residents were largely perceived to be employed (n=7) rather than unemployed (n=2). The nature of employment was perceived to be low-paid manual/unskilled, although one respondent commented that the residents were:

"Employed as drug dealers and pimps" (Young Adult 1).

A wide range of socially acceptable activities were mentioned including children playing (n=4), vehicle traffic (n=3), and chatting and walking the dog (both n=2).

Wide-ranging socially unacceptable or illegal activities cited were vandalism (n=5), drug dealing, and noisy arguments (all n=3) and youth gangs, car crime and burglary (all n=2). Drinking, pimping, graffiti, dereliction and swearing were also mentioned (n=1). Feeling 'unsafe/wary/don't like it' (n=8) was the dominant perceived emotion and the respondents expressed high levels of fear.

"Scared and unsafe" (Young Adult 2)
"Threatened and uncomfortable" (Young Adult 8).

Proposed improvements were dominated by 'repair/renovate/rebuild' the derelict property (n=6) and better street lighting (n=4). A general clean-up and painting the exterior were also cited (both n=2).

"Fix broken windows and generally improve appearance" (Young Adult 8).

In general, crime/deviancy levels were high, and fear and apprehension were dominant concerns for the young adults. The proposed solution to renovate the derelict property, the wide-ranging socially unacceptable activities, and the perceived unemployment status of the residents creates a decidedly negative image. The visible 'signs of decay' appear to significantly affect the interpretation of the image and convey predominantly negative connotations.

12.2.10 Image 10. 'Detached Housing B'.

The young adults questioned, unanimously agreed that the residents were employed (n=10), as directors and professionals, such as doctors, solicitors and the 'highly paid'. Walking (n=4), gardening, washing the car and children playing (all n=3), chatting and 'everyday activities' (n=2) were common examples of socially acceptable activities that were perceived to occur.

"Gardening and happy chat" (Young Adult 2)
"Cleaning the Bentley and the Boat" (Young Adult 3).

Popular unacceptable activities cited were 'none' (n=5), car crime (n=2) and burglary and theft (both n=1). In terms of potential feelings and emotions that might be felt, notions of being 'safe/ok/like it' (n=10) were universally agreed upon.

"Happy, safe and confident" (Young Adult 2) and
"Nice area, I'd like to live there; there are nosy neighbours" (Young Adult 4).

Improvements were not predominantly perceived to be necessary (n=8), although more colour and flowers were mentioned (both n=1). In summary, this design was regarded as possessing very low criminogenic potential and was unanimously associated with high standards of living, safety and 'liking'. Few changes were proposed and a distinctly positive, safe, secure and pleasant image was observed.

12.2.11 Overview

In general, the perception of the images can be divided into two groups. The first group is composed of designs that were perceived to be 'positive', in terms of employment, perceived crime/deviancy, safety and limited suggested improvements. This 'positive' group includes:

Image 2 - Terraced A
Image 4 - Detached A
Image 8 - Semi-detached A
Image 10 - Detached B

The second group was perceived in distinctly negative terms, as being highly criminogenic, unsafe and in need of major alterations. This group consisted of the following designs:

Image 1 - High-rise flats A
Image 3 - Semi-detached B
Image 5 - Low-rise/Walk-up flats B
Image 6 - Low-rise/Walk-up flats A
Image 7 - High-rise flats B
Image 9 - Terraced B.

Generally speaking, the young adults' responses support Newman's ideas (Newman, 1973; Newman and Franck, 1980, 1982). Low-rise and high-rise flats were all perceived in predominantly negative terms Furthermore, the negative decoding of the unkempt images of 'Semi-detached Housing B', 'Terraced Housing B' and 'Low-rise/walk-up Flats B' clearly demonstrates the importance of visible 'signs of decay' in the interpretation of housing designs by this group. The SDUs

dwelling units were generally regarded as being much safer, more positive and less criminogenic than the higher MDUs. Clean, well-maintained designs, with no visible 'signs of decay' were similarly viewed as being more positive.
Although the sample size is small, the female members of this group seem to express fear and apprehension of the more negative images, to a much greater degree. The quantitative section provides some insights into this gender-based issue.

The qualitative responses of young adults has provided unique insights into their perceptions and associations relating to the selected housing designs. The quantitative section provides a more systematic analysis and seeks to further elaborate upon our understanding of how this group of young adults perceive and decode urban residential space.

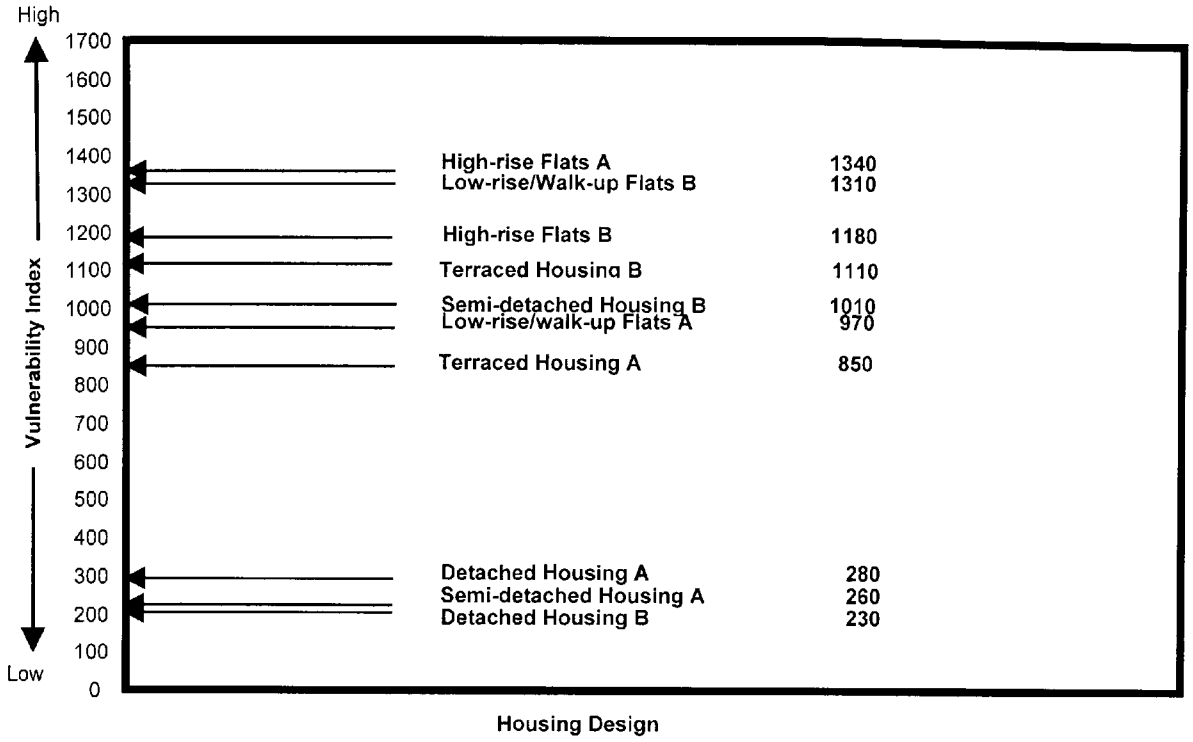
12.3 Quantitative Data Analysis

Ten 'young adults' aged 18-25 years were asked the same eighteen questions as the other three groups studied, and the results are presented and discussed below. Each of the respective bar charts is presented hierarchically to enable clear identification of patterns and trends, therefore the order in which housing type appears may change from figure to figure.

12.3.1 The 'Absolute Hierarchy of Vulnerability'

Analysis of the data reveals that, in terms of the 'Absolute Hierarchy of Vulnerability', the young adults perceived seven designs to be particularly vulnerable to crime and deviancy. These were "High-rise Flats A', Low-rise/walk-up Flats B', 'High-rise Flats B', 'Terraced Housing B', 'Semi-detached Housing B', 'Low-rise/walk-up Flats A' and 'Terraced Housing A'. The three remaining designs were perceived to be significantly less vulnerable and are as follows; 'Detached Housing A', 'Semi-detached Housing A' and 'Detached Housing 'B. Figure 12.3.1 clearly illustrates this point.

Figure 12.3.1 The 'Absolute Hierarchy of Vulnerability'



Note: Ten young adults answered 17 questions, which were scored, expressed as a % and aggregated.

Figure 12.3.1 reveals that the aggregated data provided by this group clearly supports Newman's ideas (Newman, 1973; Newman and Franck, 1980, 1982), particularly with reference to multiple dwelling units. 'High-rise Flats A', 'Low-rise/walk-up Flats B' and 'High-rise Flats B' are clearly perceived as possessing relatively high levels of criminogenic capacity. 'Terraced Housing B' and 'Semi-detached Housing B' (both with visible 'signs of decay') were also perceived to be highly vulnerable to crime. The 'private' and well-maintained image of 'Low-rise/walk-up Flats A' may explain its lower perceived vulnerability score. Conversely, the well-maintained 'Detached Housing B' was considered to be the least vulnerable, with 'Semi-detached Housing A' and 'Detached Housing A' slightly more vulnerable, but perceived as extremely safe, nonetheless. It is evident that MDUs generally were perceived to be far more criminogenic than SDUs. When combined, the 'High-rise flats 'A' and 'B' (1340+1180 = 2520/3400) were considered to be significantly more vulnerable than 'Detached Housing A' and 'B' (230+280=510/3400). The very high vulnerability score of 'Semi-detached Housing B' (1010) is in sharp contrast to 'Semi-detached Housing A' (260) and may be explained by the clear and visible 'signs of decay' and dereliction in the

image. 'Signs of decay' will be discussed in greater detail in section 12.3.4. Table 12.3.1 presents the perceived vulnerability scores for each design type.

Table 12.3.1 Housing Design and Perceived Vulnerability

Most Criminogenic design	Housing Design	Score (out of 3400)
↑	High-rise Flats A and B	2520
	Low-rise/walk-up Flats A and B	2280
	Terraced housing A and B	1960
	Semi-detached housing A and B	1270
Least criminogenic design	Detached housing A and B	510

Note: The score for each design type were aggregated to produce a maximum score of 3,400.

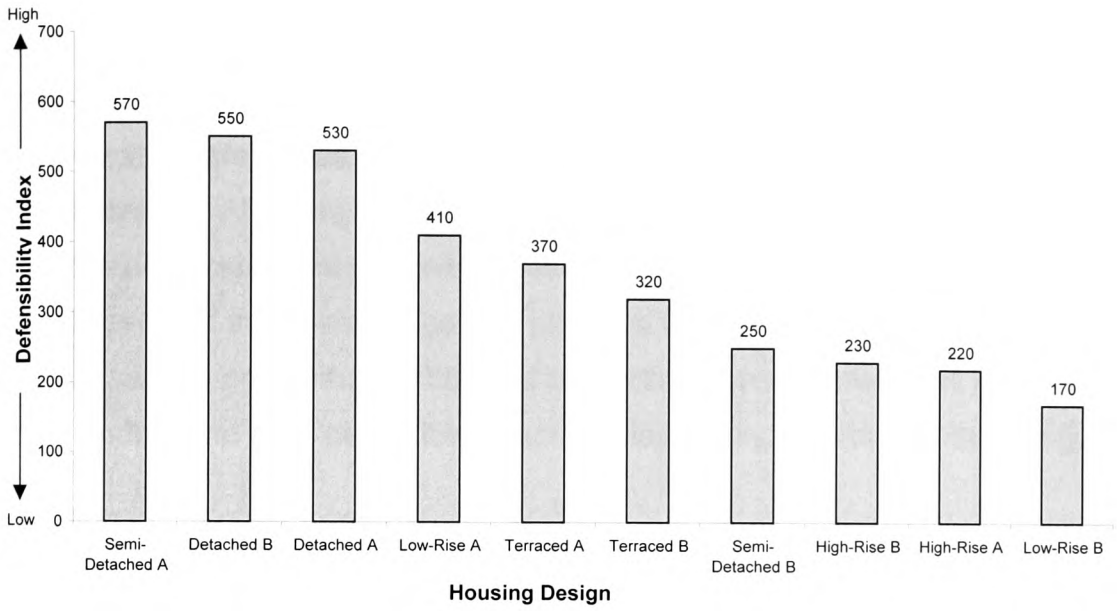
In *'Defensible Space'* (1973), Newman claimed that high-rise and low-rise/ walk-up flats contained design elements that might sponsor and encourage criminal activity, rather than discouraging it. The results presented in Table 12.3.1 reveal that the young adults interviewed decoded the images in accordance with Newman's basic findings, and 'High-rise Flats A and B' are clearly considered to be the most vulnerable design type. Further support is provided in the qualitative section (12.2.1 and 12.2.7), where some concern for safety was expressed. A more rigorous analysis of the perceived 'defensible space' qualities of each design can provide some further insights in this regard.

12.3.2 Perceptions of Defensible Space

Figure 12.3.2 below, illustrates the perceptions of young adults regarding 'defensible space'. 'Semi-detached Housing A' is clearly perceived as the most 'defensible' design with a rating of 570 out of 700. This was closely followed by 'Detached Housing B' (550), 'Detached Housing A' (530), 'Low-rise/walk-up Flats A' (410) and 'Terraced Housing A' (370), which were all considered to possess relatively high levels of defensibility. Five other designs were, however, considered to possess lower levels of defensibility. These were 'Terraced Housing B' (320), 'Semi-detached B' (250), 'High-rise Flats B' (230), 'High-rise Flats A' (220), and the least defensible design; 'Low-rise/walk-up Flats B' (170). The hierarchy, in terms of

defensibility, closely resembles the 'Absolute Hierarchy of Vulnerability' (see Figure 12.3.1) and suggests that 'defensible space' qualities are important elements in determining the overall image and vulnerability perceived for each design.

Figure 12.3.2 Perceptions of Defensible Space



Note: Ten young adults answered 7 questions, which were scored, expressed as a % and aggregated.

Significantly, the 'Low-rise/walk-up Flats A' were perceived as being far more defensible than 'Low-rise/walk-up Flats B', which possessed a lower standard of maintenance, and was considered the poorest, in terms of defensibility. Furthermore, when aggregated, the high-rise designs were considered to be the least defensible of all the designs, firmly supporting Newman (see Table 12.3.1). The better-maintained versions of most designs were also considered to be more defensible than their careworn counterparts. This was not the case for the two designs where 'signs of decay' were absent; the detached housing and the high-rise flats. 'Detached Housing B' was considered to be marginally less vulnerable (Figure 12.3.1) and more defensible (Figure 12.3.2) than 'Detached Housing A'. The high wall, 'fortress-like' and overtly private appearance may partially explain this. The high exterior boundary wall may well have affected perceived levels of surveillance. The recently renovated appearance of 'High-rise Flats B' may explain the higher defensibility score and lower vulnerability score as compared to 'High-rise Flats A'. The importance of real estate management and the ongoing

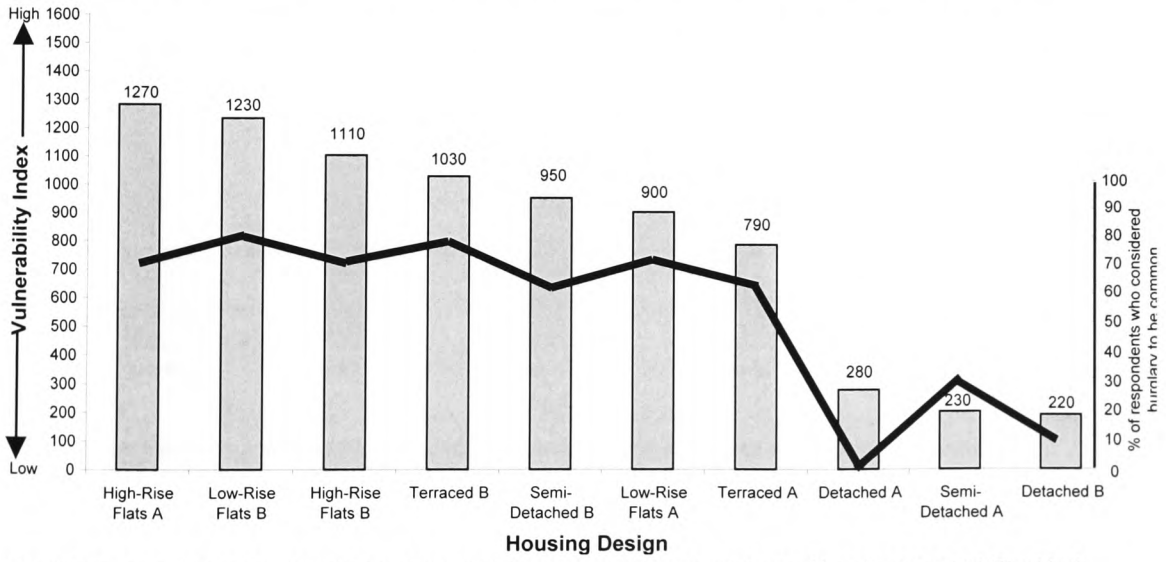
maintenance of property are therefore restated and again, Wilson and Kellings' 'Broken Windows' (1982) thesis is once more reinforced. Newman's theory is also supported in this regard since the 'image' of the design has clearly influenced the perceived criminogenic potential.

12.3.3 The 'Absolute Hierarchy of Vulnerability' and 'Expected Burglary'

As previously discussed, reference to Figure 12.3.1 reveals that 'Detached Housing B' is perceived as being the safest and is highly defensible (Figure 12.3.2). This design did not engender any fear (see Figure 12.3.5), and was universally preferred as a place of residence (see Table 12.3.2). Figure 12.3.3 illustrates the 'Absolute Hierarchy of Vulnerability', and introduces an additional dimension to represent the level of anticipated burglary for each design type. This is represented as a percentage and provides further insights into the perceptions of this sample group, suggesting that yet further considerations are required to fully understand how 'defensible space' is viewed and interpreted by young adults.

Figure 12.3.3

The 'Absolute Hierarchy of Vulnerability' and 'Expected Burglary



Note: Ten young adults answered 16 questions, which were scored, expressed as a % and aggregated. The black line represents responses to a separate question and superimposes 'expected burglary' levels onto each design.

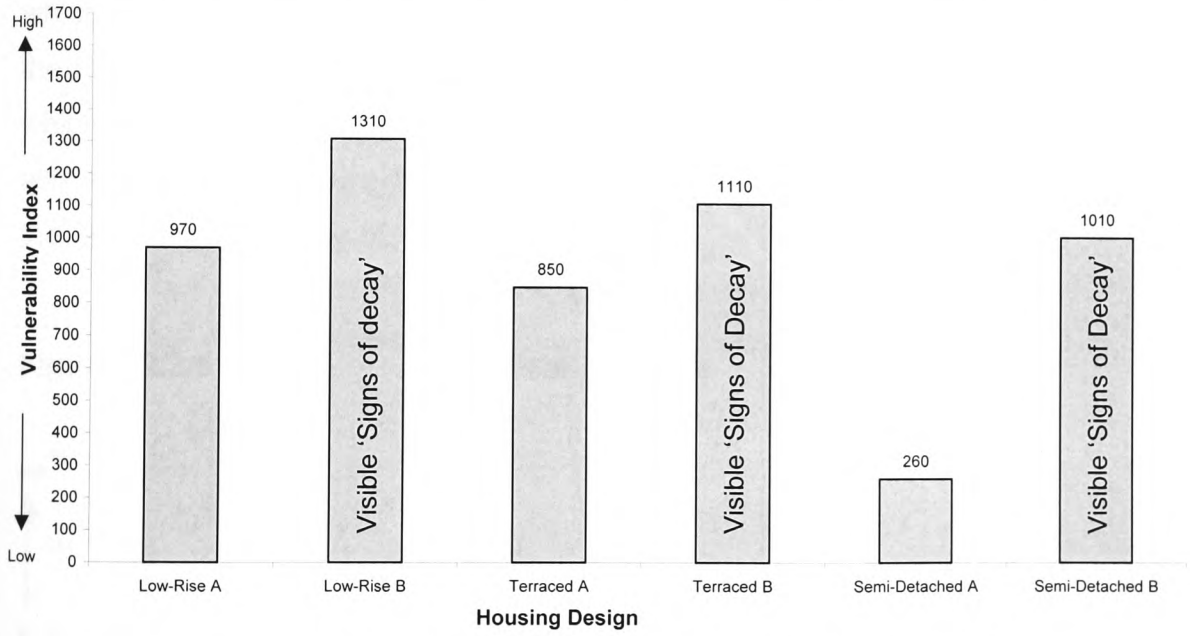
As can be seen in Figure 12.3.3. the young adults perceived burglary to be more common in some designs than in others. Expected burglary rates ranged from 0% ('Detached Housing A') to 80% ('Low-rise/walk-up Flats B' and 'Terraced Housing

B') and closely mirror the trends in the 'Absolute Hierarchy of Vulnerability' (Figure 12.3.1).

12.3.4 Signs of Decay and Comparing Design 'A' with Design 'B'

Three of the ten images selected for this research deliberately contain visible 'signs of decay', such as boarded-up windows or graffiti, that were clearly visible to the respondent viewing the images. The comparison of such designs with their well-maintained counterparts provides interesting viewing and is illustrated in Figure 12.3.4. The poor quality 'Semi-detached Housing B' was considered to be significantly more vulnerable than 'Semi-detached Housing A'. Similarly, 'Terraced Housing B' and 'Low-Rise Flats B' are both considered to be more vulnerable than their better-maintained versions.

Figure 12.3.4 Visible 'Signs of Decay, Design and Vulnerability



Note: Ten young adults answered 17 questions, which were scored, expressed as a % and aggregated.

Reference to Figure 12.3.1, the 'Absolute Hierarchy of Vulnerability', demonstrates that three out of the five less well-maintained examples were considered as blatantly more criminogenic than their well-maintained counterparts. This was not the case for both 'Detached Housing' and 'High-rise Flats', where design 'A' was considered more vulnerable than design 'B'. This can be explained by the perceived 'fortress-like' features in 'Detached Housing A' and the 'hard' image of the concrete structure of 'High-rise Flats A'. Significantly, these design types did

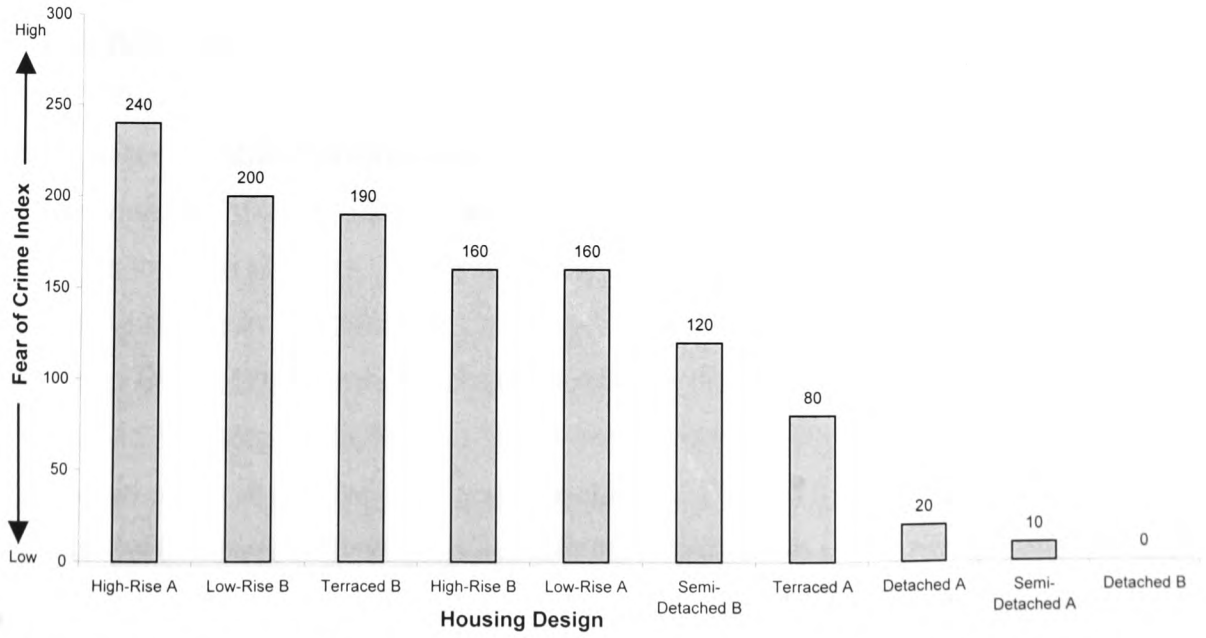
not possess 'visible signs of decay' and were not so clearly visually differentiated as those that did. Consequently, the perception of 'A' and 'B' for these two designs is not so polarised. Further research may well be useful to probe this aspect of design.

It is apparent that 'defensible space' has been largely supported by the findings. MDUs and all designs exhibiting 'visible signs of decay' were perceived as being less defensible than other designs. In terms of 'image' and building height, Newman's ideas (Newman, 1973; Newman and Franck, 1980, 1982) are reinforced yet again. Furthermore, the work of Wilson and Kelling (1982) and Kelling and Coles (1996) is also supported with regard to visible signs of decay.

12.3.5 Fear of Crime and Design

Figure 12.3.5 provides a graphical representation of the three questions asked which focused on the fear of crime. Fear of crime clearly varies from one design to the next and for this group of young adults the total fear level was 1180/3000; which equates to a group fear level of 39%. Variation in terms of each design type was significant, as Figure 12.3.5 illustrates. Levels of fear appear to closely reflect the 'Absolute Hierarchy of Vulnerability'.

Figure 12.3.5 The Fear of Crime



Note: Ten young adults answered 3 questions, which were scored, expressed as a % and aggregated

In general, the four MDU's were again more prominent, with a total fear level of 760/1200 and an average score of 190/300. Such designs engendered significantly higher levels of fear than the six SDU's, which totalled 420/1800, and averaged 70/300. This data therefore provides further support for Newman (1973; Newman and Franck, 1980, 1982), in his assessment of MDU's and also demonstrates support for the 'private' well-maintained housing designs. Significantly, no fear of crime was perceived with regard to 'Detached Housing B', while the fear level for 'Detached Housing A was a mere 20/300.

This group can also be analysed by gender, and although the sample size is small, some insights may nevertheless be revealed. The fear level for males of 340/1500 is significantly lower than the female level of 860/1500, consistent with many previous studies (Hale, 1996; Goodey, 1997; Mirrlees-Black *et al.,* 1998). Crucially, 'High-rise Flats A' was perceived to be the most feared design with 'Low-Rise/Walk-up Flats A', 'B' and 'Terraced Housing B' also highly feared by young adult females. The males viewed these designs with apparently significantly less trepidation. Agreement does exist regarding the designs with very low fear levels, such as 'Detached Housing A', 'Semi-detached Housing A', and ' Detached Housing A', yet all other designs are found to possess high fear levels for females, which is not the case for males. The discussion in the chapter concerning fear of crime has highlighted gender differences, and the results here certainly suggest that the decoding of housing designs are influenced by gender. Certainly, further research is required of this aspect, although such analysis was not a central concern of this research.

12.3.6 Residential Preferences

Reference to Table 12.3.2 reveals that the young adults interviewed perceived the designs in three clusters. The first cluster, where there was a strong personal desire to reside in the designs, contained 'Detached Housing A' (100%), 'Detached Housing B' (100%),'Semi-detached Housing A' (90%). In a second cluster, 'Terraced Housing A' (20%) and 'Semi-detached Housing B' (10%) were the preferred place of residence to a lesser degree. For the third cluster, the young adults were in overwhelming agreement that they would prefer not to reside in any of the following designs; 'High-rise Flats A', 'High-rise Flats B', Low-rise/walk-up Flats A', 'Low-rise/walk-up Flats B' and 'Terraced Housing B' (all 0%). These three

clusters closely reflect the 'Absolute Hierarchy of Vulnerability' (Figure 12.3.1) indicating that preference and perceived vulnerability are intricately interwoven. Table 12.3.2 illustrates the preferences of the young adults interviewed.

Table 12.3.2 Residential Preferences

Image	% who said they would like to live here
High-rise flats B	0
High-rise flats A	0
Low-rise/walk-up flats B	0
Low-rise/walk-up flats A	0
Terraced Housing B	0
Semi-detached Housing B	10
Terraced Housing A	20
Semi-detached Housing A	90
Detached Housing B	100
Detached Housing A	100

Note: Ten young adults answered one question, which was scored and expressed as a %.

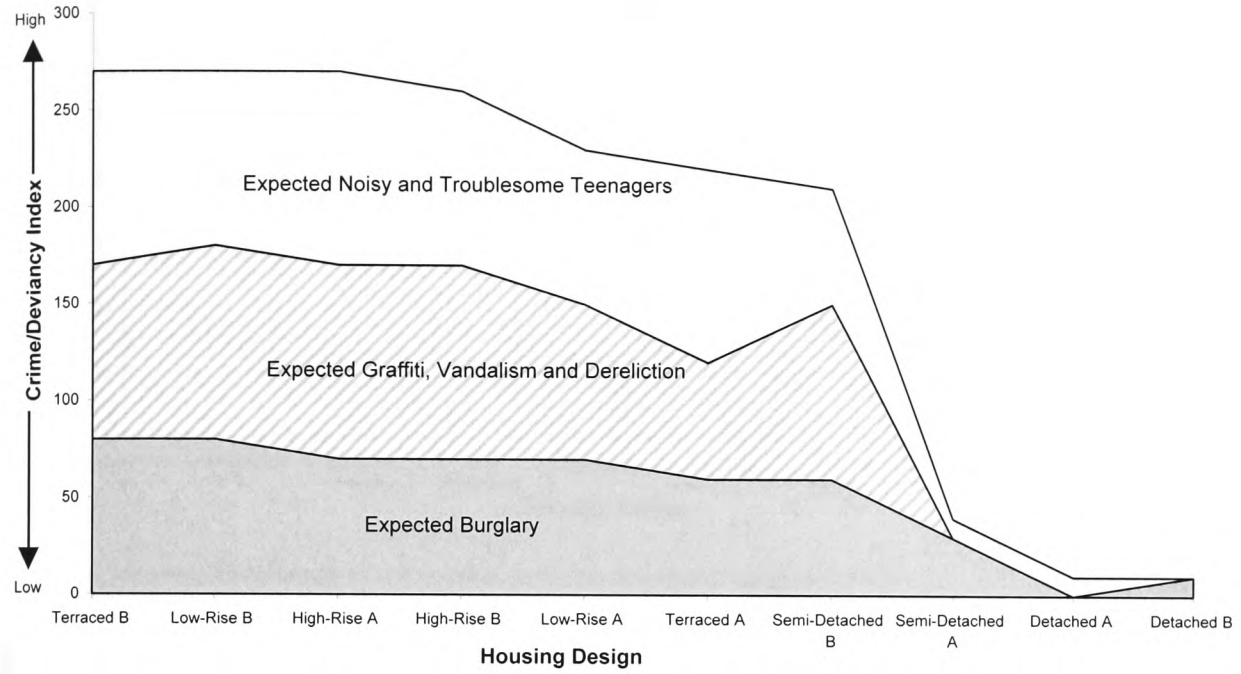
12.3.7 The Crime/Deviancy Index

Figure 12.3.6 below, illustrates the results for the three questions designed to probe perceived crime/deviancy levels. There appears to be a broad pattern that loosely reflects the 'Absolute Hierarchy of Vulnerability' and the trends found in the qualitative analysis. The five designs that were regarded as being more 'negative' predictably possessed relatively high levels of expected crime/deviancy. Conversely, the three designs perceived as the most 'positive' ('Detached Housing A and B' and 'Semi-detached Housing A) have negligible levels of expected crime/deviancy. Perhaps more significantly however, two of the three designs with clear and visible 'signs of decay' ('Terraced Housing B' and 'Low-rise/walk-up Flats B') were associated with the highest levels of potential crime, disorder and deviancy. The third member of that group, 'Semi-detached Housing B', was associated with criminality to a lesser degree.

Noisy, troublesome teenagers and graffiti/vandalism/dereliction were all perceived to exist at high levels in the seven most vulnerable designs, and perceptions fall sharply as the group progresses to those exemplary design regarded as the

safest. Significantly, graffiti/vandalism/dereliction were not expected to exist at all in the three least vulnerable designs ('Detached Housing A', 'Detached Housing B' and 'Semi-detached Housing A').

Figure 12.3.6 The Crime/Deviancy Index

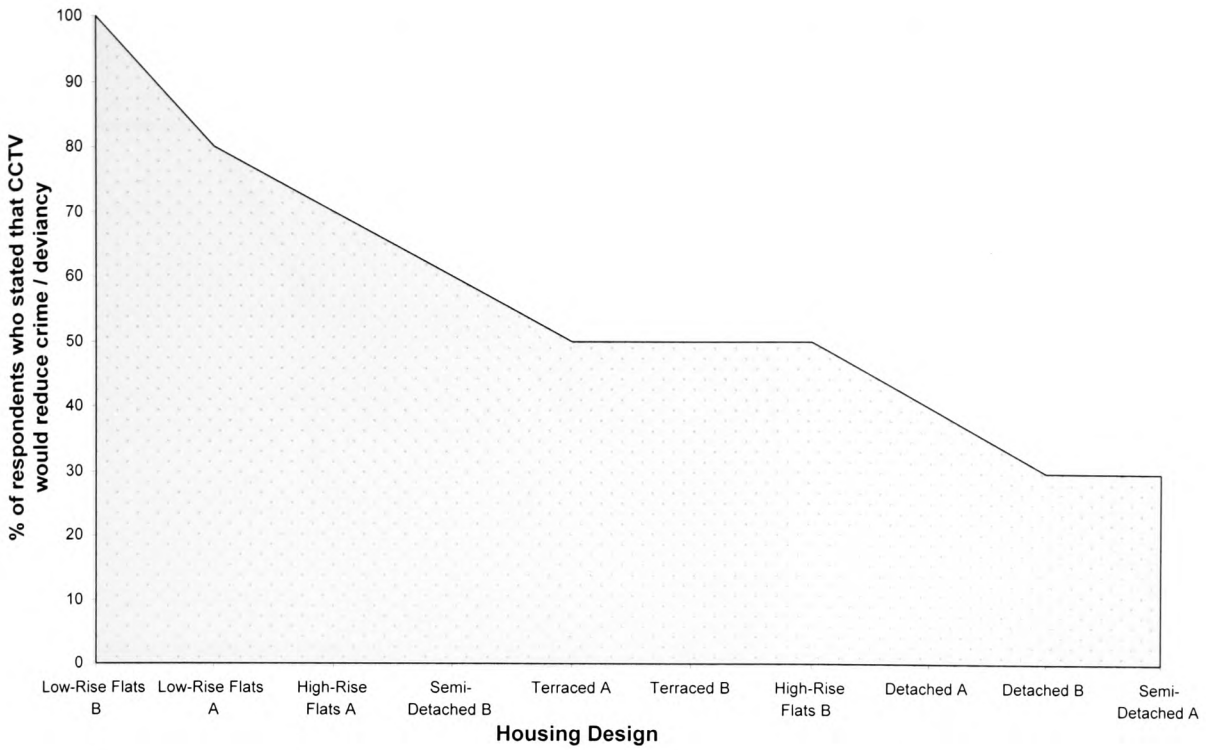


Note: Ten young adults answered 3 questions, which were scored, expressed as a % and aggregated.

12.3.8 The Perceived Effectiveness of CCTV

There appears to be some agreement concerning the overall effectiveness of CCTV across all designs in reducing socially unacceptable and illegal behaviour, with a total score of 520/1000, (52%) believing this to be the case across all ten designs. In terms of particular designs, however, CCTV was perceived to be a particularly useful tool, for reducing crime/deviancy in 'Low-rise/walk-up Flats B' (100%), 'Low-rise walk-up Flats A' (80%), 'High-rise Flats A' (70%) and 'Semi-detached Housing B' (60%). (see Figure 12.3.7). It would appear that as perceived vulnerability decreases, the utility and effectiveness of, or necessity for CCTV is expected to decline. CCTV installations in residential areas tend to be predominantly located amongst those designs that are least vulnerable to crime and more able to afford these and other such measures. Notwithstanding the obvious civil liberties considerations, these findings suggest further research and deliberation is required.

Figure 12.3.7 The Perceived Effectiveness of CCTV



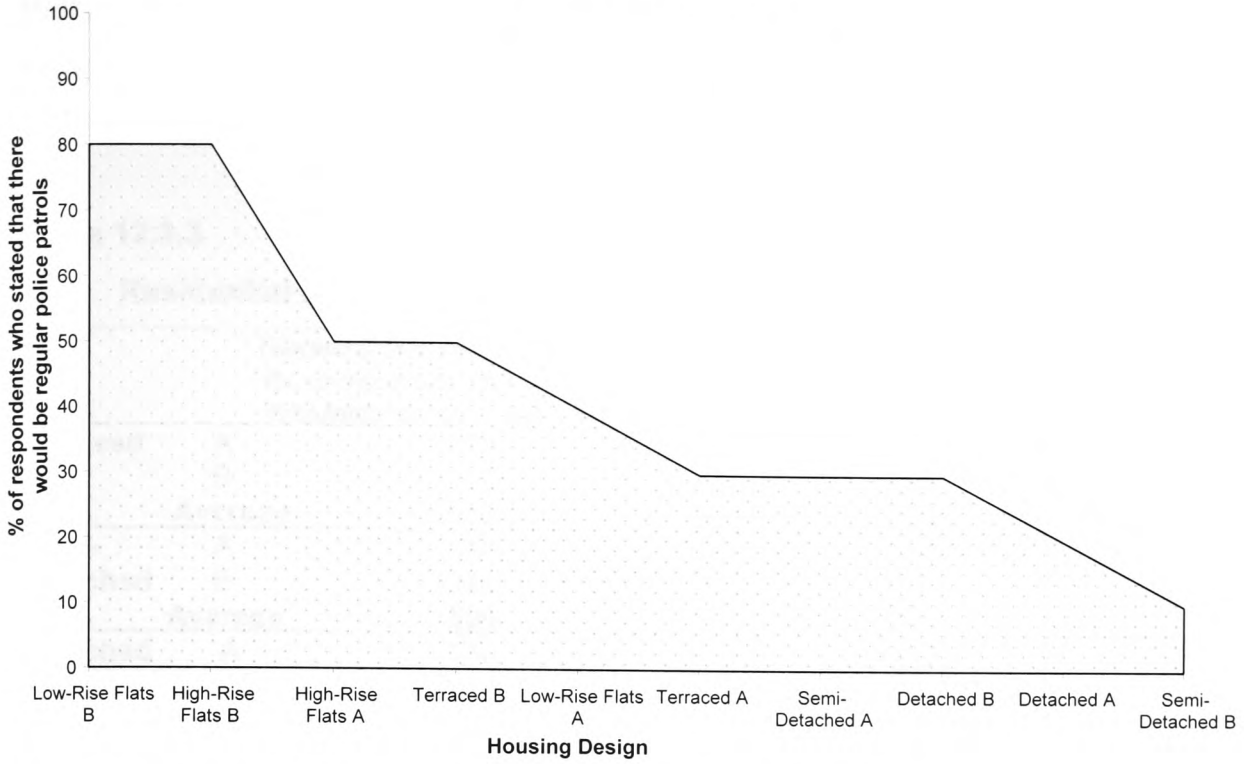
Note: Ten young adults answered one question, which was scored and expressed as a %.

12.3.9 Regular Police Patrols

An average of less than half of the young adults felt that police patrols would be a regular occurrence across all ten designs, with a total of 420/1000 (42%). Variation across the design typologies was also evident, but with little discernible pattern. However, it is clear that police patrols are considered to be as likely across each version of the same design typology (i.e. 'Low-rise/walk-up Flats A and B'). This suggests that maintenance levels and the 'image' of the design are not perceived by this group to effect the propensity for police to patrol. Alternatively, this trend could be coincidental.

The presence of police patrols only marginally reflects the 'Absolute Hierarchy of Vulnerability' (12.3.1). Figure 12.3.8 demonstrates that regular police patrols are regarded as being common in 'High-rise Flats B' and 'Low-rise/walk-up Flats B' (80%), 'High-rise Flats A' and 'Terraced Housing B' (50%) and in 'Low-rise/walk-up Flats A (40%). Police patrols were also expected to a lesser degree in 'Semi-detached Housing A' and 'B' (30% and 10%), 'Detached Housing A' and 'B' (20% and 30%), and 'Terraced Housing A' (30%)

Figure 12.3.8 **Regular Police Patrols**



Note: Ten young adults answered one question, which was scored and expressed as a %.

The perceptions of the young adults in relation to police patrols, appears to be highly complex. A broader sample and further research can assist in unravelling the perceptions that young adults hold regarding police patrols for common British housing designs.

12.3.10 Residential Experience and the 'Absolute Hierarchy of Vulnerability'

Table 12.3.3 below, reveals how residential background may have influenced the perception of each image.

It appears that residential background, for the young adults interviewed, does not significantly affect their overall perception of each design, in terms of vulnerability. There is some pattern whereby vulnerability is considered to be higher by those who had resided in terraced, semi-detached and low-rise/walk-up housing. However, the differences are not substantial, particularly in consideration of the sample size. The exception applies to young adults who had resided in 'Detached' properties, who expressed a marginally less vulnerability score (200/1700) than those who had not resided in such dwellings (280/1700). No young adults had resided in high-rise flats and consequently, no comparison can be made. The lack

of any discernible, significant influence of housing experience upon the 'Absolute Hierarchy of Vulnerability' for all designs may be partially explained by the limited exposure to residential building types of these young adults, or again, by the characteristics of the sample. Further research may as ever, be essential.

Table 12.3.3

Residential Experience and the 'Absolute Hierarchy of Vulnerability'

		Hierarchy of Vulnerability score for young adults who stated they ***had*** resided in such deigns	Hierarchy of Vulnerability score for for young adults who stated they ***had not*** resided in such designs
Terraced	A	870	700
	B	1100	1200
	Average	**985**	**950**
Semi-	A	340	200
Detached	B	1040	930
	Average	**690**	**565**
Detached	A	170	330
	B	230	230
	Average	**200**	**280**
Low-rise/	A	1150	920
Walk-up flats	B	1400	1250
	Average	**1275**	**1085**
High-rise flats	A	-	1340
	B	-	1180
	Average	**-**	**1260**

Note: The 'Absolute Hierarchy of Vulnerability' perceived by each respondent was calculated and presented in terms of whether they had stated they had lived in the design type or not.

12.3.11 Crime Experience and Fear of Crime

When crime experience data is aligned with the quantitative data collected on the fear of crime, an interesting outcome is observed, as demonstrated in Table 12.3.4. The three fear of crime questions generate a total score of thirty as an 'Individual Fear Level' for each of the ten young adults. These ten scores were aggregated and expressed as a percentage to indicate the average 'Group Fear Level' for the respective groups across all ten designs.

As Table 12.3.4 demonstrates, the minority who were victims of crime in 1999 were found to be only marginally more fearful than those who had not experienced crime in that year.

The same calculations were also applied to the other three crime experience questions, with the following results. The fear level for those who were victims of crime before 1999 was 39%, contrasting with those that had not, where the level was 42%. For those who knew someone who had been a victim of crime in 1999 the fear level was 47% compared with 25% who did not possess such knowledge. Finally, for those who knew a victim of crime before 1999, the fear level was 42% compared to 20% who did not.

Table 12.3.4 Crime Experience and Fear of Crime

Those who were victims of crime in 1999	
Young Adult Number	Individual Fear Level (maximum of 30)
4	4
8	19
Total 2 x 3 questions	23/60
Group Fear level, expressed as a %	**38 %**

Those who were *not* victims of crime in 1999	
Young Adult Number	Individual Fear Level (maximum of 30)
1	2
2	16
3	6
5	6
6	13
7	15
9	20
10	11
Total 8 x 3 questions	89/240
Group Fear level, expressed as a %	**37 %**

Personal experience of crime does not appear to significantly affect fear of crime levels for this group. However, knowledge of others who have been victims does seem to influence fear levels. Although caution must be applied in the analysis of this data set. Further research and a larger sample group may well provide useful insights into understanding crime, the fear of crime and the perception of residential housing designs.

12.3.12 Summary

Perception in the built environment is again reiterated as a highly complex and intricate phenomenon. Social messages and associations are clearly being constructed and utilised to contribute significantly to the overall decoding of the design that the young adults exhibit. Newman's theory of 'Defensible Space' is supported with regard to the perceptions of low-rise/walk-up flats, high-rise flats, terraced, semi-detached and detached housing. SDUs with increased levels of privacy, territoriality, maintenance and overall 'image' are, in combination, perceived to represent safer designs with low fear levels and are regarded as possessing high levels of defensibility. Public, MDUs exhibiting lower levels of territoriality and maintenance and a poorer 'image' are perceived to be more vulnerable to crime and deviancy and they are adjudged to generate higher levels of fear and lower levels of defensibility. The 'Absolute Hierarchy of Vulnerability' has provided a most useful scale for the gradation of housing designs and reveals a clear preference for 'Detached Housing B'. The suburban 'Semi-detached Housing A' was also highly favoured along with 'Detached Housing A'. The appearance of visible 'signs of decay' in selected images has been shown to be a powerful influence upon perceptions and Newman's third concept of 'image and milieu' is supported in addition to Wilson and Kelling (1982) and Kelling and Coles (1996). The crime and residential experience of the respondents were not overly significant in terms of influencing fear of crime levels or the perceived vulnerability of each housing design. However, these two approaches reduce the numbers in each of the sample groups and may require further investigation.

The young adults clearly regarded high-rise flats to be the most criminogenic design and to engender the highest levels of fear. The data also reveals that this group considered the well-maintained terraced design to possess relatively low levels of vulnerability, expected burglary and fear of crime and it was regarded as being relatively defensible, although it was not a preferred place of residence. Nevertheless, such data is certainly significant, particularly regarding the ongoing debate concerning the suggested necessity for high-density housing to meet current household projections (DOE, 1995). Indeed, the defensible qualities of this design have been recent highlighted (Steventon, 1996). In the light of the campaign for improved urban design (DETR, 1999) and the failure of previous

design crusades (Social Exclusion Unit, 1998) such findings are worthy of consideration.

Young adults, as users of urban space, perceived a clear and distinct scale within the housing designs presented and such findings clearly support Newman's 'Defensible Space' theory. The responses of this group have clearly produced a 'Stratification of Place' (Logan, 1978) for the designs presented, particularly in terms of the perceived 'defensible space' qualities of each design. The importance of perceptions to understanding 'defensible space' theory have only recently been highlighted (Tijerino, 1998; Ham-Rowbottom *et al.*, 1999), and the perceptions of young adults has certainly provided interesting data. Comparing and contrasting the four distinct sample groups undoubtedly promises further intriguing insights into the perceptions of 'defensible space' and criminality in the British City and are discussed in Chapter 13.

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Chapter 13

Data Analysis, Results and Discussion: A Comparative Investigation.

13.0 Data Analysis

This chapter compares and interprets the data collected from the burglars, planning professionals, police officers and young adults who were interviewed. It critically probes the contrasts and similarities in the perceptions of these groups, in addition to providing an overview of the aggregated data.

13.1 Qualitative Data Analysis

The qualitative responses provided by all the sample groups were broadly similar for seven out of the ten images presented. There was some disagreement concerning the three remaining designs. A discussion of these points is provided in the Overview 13.1.11. Below is a discussion of the commonalities and pluralities of perspectives that were found when analysing the data on a design-by-design basis.

13.1.1 Image 1. 'High-rise Flats A'

This image was perceived in highly negative terms by all sample groups. Fear of crime was high, even for the police, who predominantly expressed very low levels of fear. The monotonous and uninspiring concrete appearance of this design and the threatening presence of the high exterior walls were associated with hiding places and possible muggings. It was perceived that gangs of unemployed youths may be lurking in these hiding places and significantly, potential robbery was a concern expressed by one police officer. The burglars expressed that they would feel at ease when committing an offence in this environment. All groups suggested major changes to the design/structure, predominantly relating to demolition or redevelopment. Furthermore, the planners did express more detailed knowledge regarding specific design modifications, as expected.

13.1.2 Image 2. 'Terraced Housing A'

This image was perceived by all groups to be of a predominantly positive nature. The residents were considered to be largely employed and a 'neighbourly' image was decoded, whereby surveillance by residents and possible intervention were assumed to be likely. Generally, the image was one of moderate potential crime and high levels of perceived safety. Minor design improvements were suggested

by all groups, although one police officer proposed the amendment of the street configuration to that of a cul-de-sac, perhaps reflecting current police advice.

13.1.3 Image 3. 'Semi-detached Housing B'

This image was unanimously perceived in highly negative terms. The burglars, police and young adults considered the residents to be predominantly employed while the planning professionals perceived them to be largely unemployed. All of the groups interviewed, expected a wide-range of criminal activities and deviancy to occur, although fear levels were highest for the young adults and planning professionals, while fear levels for the police and burglars were negligible. Renovation of the derelict property in the image was a commonly suggested improvement by all groups.

13.1.4 Image 4. 'Detached Housing A'

There was near universal agreement on the employed status of the residents associated with this image and professional occupations were anticipated, such as judges, doctors, barristers, solicitors and company directors. Low levels of crime were expected by all groups and fear levels were similarly diminutive. Interestingly, the design feature of the high exterior wall did generate some concern regarding the reduced levels of social interaction that this barrier was perceived to create. The young adults and planning professionals both made several comments regarding this matter and expressed concern at the 'fortress-like' appearance. No such comments were made by the police or burglars. For the latter group, this design represented the possibility for accumulating wealth and profit as a result of an attempted burglary. The potential rewards offered by such a design caused immediate and noticeable shouts of joy and enthusiasm from the convicted burglars when this design was presented at the interview. Generally, this image was perceived by all groups to be a safe and pleasant environment, with improved lighting representing the only commonly suggested amendment.

13.1.5 Image 5. 'Low-rise/walk-up Flats B'

All groups perceived the residents to be predominantly unemployed and potential incidents of crime and deviancy were extensive and wide-ranging. A highly negative image therefore prevailed across all groups. Fear levels were high, even for the police, and the threat of congregating youths was a commonly mentioned

concern. Improvements to this image were generally related to demolition or redevelopment and significantly, both the planning professionals and the police suggested highly 'newmanesque' design changes. These centred around creating territoriality and increasing surveillance by replacing the present design with SDUs (with gardens), configured as low-rise, linear streets.

13.1.6 Image 6. 'Low-rise/walk-up Flats A'

This image was not perceived consistently across the groups. It was considered as 'positive' by the burglar group, 'neutral' by the planning professionals and police officers, yet highly 'negative' by the young adults. The potential rewards offered by the 'private' appearance of the image may explain the perception of the burglars – they were decidedly rapid in their identification of the expensive vehicles in the parking area. The neutral responses of the police and planners may partly be explained by a combination of the associations made regarding this 'private' appearance and the negative design elements of the balconies and walkways. The young adults were extremely frightened and apprehensive of this design – perhaps explained by their relative lack of experience of such designs. Again, highly 'newmanesque' design improvements were suggested by both the police officers and the planning professionals.

13.1.7 Image 7. 'High-rise Flats B'.

Again, the groups did not agree on the perceived image of this particular design. The police officers and planning professionals viewed the design in neutral terms, while the burglars and young adults perceived the image in more negative terms. The burglars and young adults perceived the residents to be largely unemployed, and they felt that levels of criminal activity and deviancy would be extensive. This was also the case for fear levels. The police officers and planning professionals agreed that the residents were a mix of the employed and the unemployed, and that feelings of safety, predominated over notions of fear. The recent and clearly visible improvements to the exterior may partially explain the more neutral perceptions held by these groups. It is also interesting to note that reducing the height of the block was commonly suggested by all groups, with planning professionals and police officers in particular, suggesting 'newmaneque' changes such as access control, delineating territorial areas and privatising gardens.

13.1.8 Image 8. 'Semi-detached Housing A'.

The sample groups agreed almost unanimously on the employed status of the residents associated with this image. Low levels of both crime and deviancy and fear of crime were perceived to exist in this design. Few improvements were suggested. All groups possessed a strong preference to reside in this image, and exhibited feelings of safety, relaxation and comfort. This design was generally perceived to possess low criminogenic capacity and fear levels and was also considered to be a highly positive image. The burglars, not surprisingly perhaps, commented upon the potential rewards that they might discover in the event of burgling the properties presented in the image.

13.1.9 Image 9. 'Terraced Housing B'.

This image was perceived by most groups in a highly negative manner. The burglars, planning professionals and young adults all agreed that this design was fear-inducing and was not a preferred place of residence. Furthermore, this design was associated with high incidents of crime and deviancy. The police and burglars believed the residents to be a mix of unemployed and employed, the young adults believed the residents to be largely employed and the planning professionals felt they were predominantly unemployed. The negative image of this design was tempered by notions of employment and low levels of fear for the police officers, creating a marginally more neutral image. Renovation of the empty house was universally suggested across all sample groups and once again, both police officers and planning professionals mentioned various 'newmanesque' design changes. The visible 'signs of decay' in this image were clearly influencing the user groups in their perceptions of this image.

13.1.10 Image 10. 'Detached Housing B'.

The sample groups agreed unanimously upon the employed status of the residents associated with this image, with highly paid professionals and managing directors representing commonly cited examples. Few incidents of crime and deviancy were mentioned by either of the groups and expected levels of fear of crime were low. Improvements were not generally perceived to be required. This design was considered as safe, pleasant and attractive and highly preferred as a potential residence. The burglars once again expressed delight at viewing this

image, and comments centred upon an admiration for the house and the potential rewards perceived to be within.

13.1.11 Overview

Table 13.1 illustrates the clustering of designs as perceived by the respective groups. The grey areas indicate those areas of agreement.

Table 13.1 Qualitative Clustering of Designs by Sample Group

	Burglars	Planners	Police	Young Adults
Positive Imagery	Detached A Semi-detached A Detached B Terraced A Low-rise A	Detached A Semi-detached A Detached B Terraced A	Detached A Semi-detached A Detached B Terraced A	Detached A Semi-detached A Detached B Terraced A
Neutral Imagery		Low-rise A High-rise B	Low-rise A High-rise B Terraced B	
Negative Imagery	Low-rise B High-rise A Semi-detached B High-rise B Terraced B	Low-rise B High-rise A Semi-detached B Terraced B	Low-rise B High-rise A Semi-detached B	Low-rise B High-rise A Semi-detached B Low-rise A High-rise B Terraced B

It is evident that agreement exists regarding the perceptions of all sample groups concerning seven of the images presented. Four designs, namely; 'Semi-detached Housing A', 'Detached Housing A', 'Detached Housing B' and 'Terraced Housing A' were all perceived as designs associated with a positive image. This is represented by a high preference to reside in the property, low levels of perceived crime/deviancy and fear of crime, employed residents and minimal suggested design improvements. This cluster therefore has particular importance in consideration of the current emphasis towards more attractive urban designs mentioned in recent Government publications (i.e. "Towards an Urban Renaissance" (DETR, 1998)).

Conversely, three designs ('Low-rise/walk-up Flats B', 'High-rise Flats A', and 'Semi-detached Housing B') were perceived by all groups in more negative terms. This is represented by low preference for residing in the property, high perceived levels of crime/deviancy and fear of crime, unemployed residents and extensive and wide-ranging suggested design improvements.

For the three remaining designs ('Low-rise/walk-up Flats A', 'High-rise Flats B' and 'Terraced Housing B'), there was no agreement across the sample groups. As previously discussed (see section 11.2.9), the police officers perceived 'Terraced Housing B' to be marginally more positive than the other groups, although it was nevertheless regarded as neutral, rather than negative. The heightened visibility and surveillance offered by the linear layout of this design may partly explain this anomaly. It is argued that the recently renovated appearance of 'High-rise Flats B' and the 'private' demeanour of 'Low-rise/walk-up Flats A' may have elevated these designs out of the negative category into the neutral zone for the police officers and the planning professionals. The well-maintained nature of these designs was clearly an influential factor for both these groups. The lack of residential experience in the young adult cohort to some extent, explains the negative imagery for 'Low-rise/walk-up Flats A'. The potential rewards on offer (represented by the expensive cars in the car park) may explain the more positive imagery possessed by the burglars for this design.

Although this research did not specifically seek to analyse the influence of age upon perception, it appears that the older cohorts of the police officers and planning professionals decoded the designs more hierarchically. The younger burglars and young adults, on the other hand, perceived the imagery in more polarised terms as either positive or negative.

The designs with visible 'signs of decay' ('Semi-detached Housing B', 'Low-rise/walk-up Flats B' and 'Terraced Housing B'), were largely perceived in highly negative terms, illustrating the importance of property management and ongoing maintenance in influencing the way housing designs are decoded.
Generally speaking, it is evident that Newman's theory is strongly supported and that MDU's were considered to be more criminogenic and fear-inducing than SDU's. Well-maintained designs were also associated with less crime, deviancy

and fear of crime and were positively regarded in terms of employment. Conversely, poorly-maintained designs were perceived in negative terms, as areas with high levels of crime/deviancy and fear and high levels of unemployment.

In this period of extensive house building, it is perhaps refreshing to find 'Terraced Housing A' in the 'positive' grouping for all sample groups, particularly since such a design may warrant consideration as a relatively inexpensive, high-density design option. The quantitative analysis may usefully investigate further these themes and ideas to probe specifically, the 'defensible space' perceptions relating to each housing design.

13.2 Quantitative Data Analysis

Ten convicted burglars, ten planning professionals, ten police officers and ten young adults (aged 18-25 years) were asked the same eighteen questions. Each of the respective bar charts is presented hierarchically to enable clear identification of patterns and trends, therefore the order in which housing type appears may change from figure to figure. The results are presented and discussed in terms of both the individual trends and a comparative analysis, whereby the significant areas of accord and discord are discussed. A composite perspective is also provided.

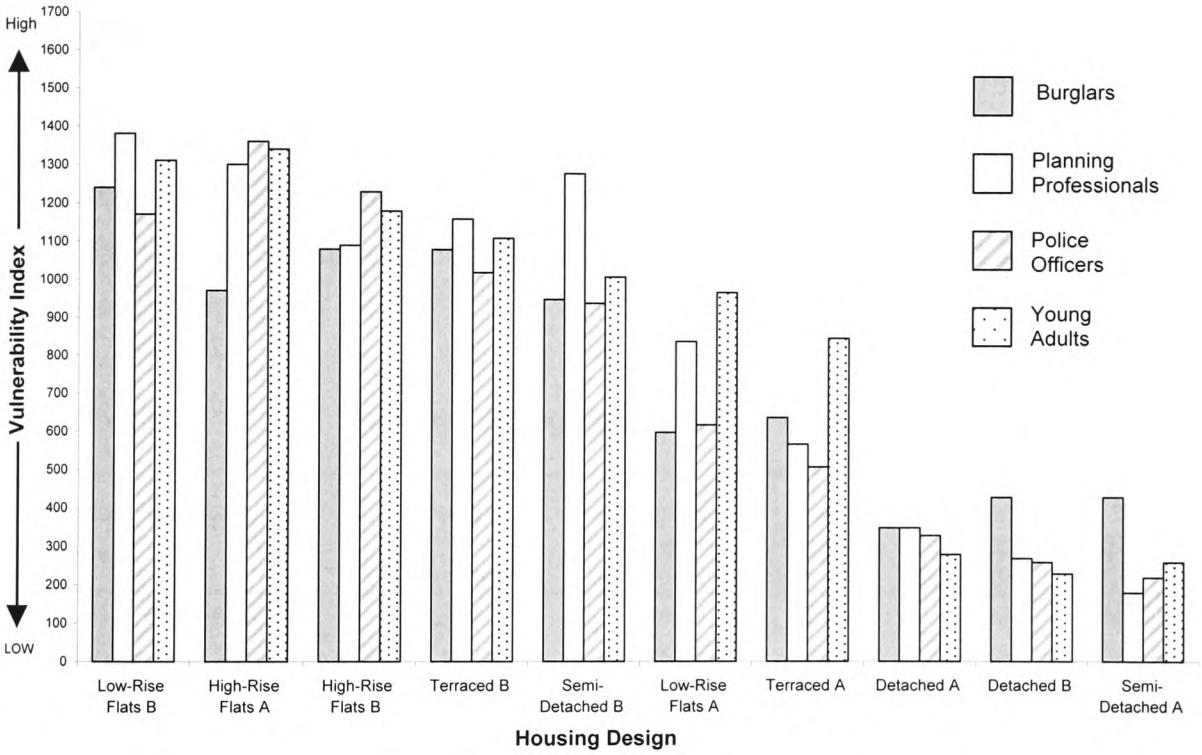
13.2.1 The 'Absolute Hierarchy of Vulnerability'

Analysis of the data reveals that, in terms of the 'Absolute Hierarchy of Vulnerability', all the sample groups perceived five designs to be particularly vulnerable to crime and deviancy. These were "High-rise Flats A', Low-rise/walk-up Flats B', 'High-rise Flats B', 'Terraced Housing B', and 'Semi-detached Housing B'. The five remaining designs were perceived to be significantly less vulnerable and include 'Low-rise/walk-up Flats A' and 'Terraced Housing A' and the 'safest' designs of all, 'Detached Housing A', 'Semi-detached Housing A' and 'Detached Housing B'. Figure 13.1 clearly illustrates this pattern.

An inter-group comparison reveals that in general, the 'Absolute Hierarchy of Vulnerability' for each sample group is broadly similar. The MDUs and the designs with clearly visible 'signs of decay' ('Low-rise/walk-up Flats B', 'Terraced Housing

B' and 'Semi-detached Housing B') are commonly perceived as being the most vulnerable designs across all groups. Significantly, the police officers considered 'High-rise Flats A and B' to be the most vulnerable designs. The 'young adults' also agreed that 'High-rise Flats A' were most at risk while 'Low-rise/walk-up Flats B' is considered as a highly vulnerable design by burglars and planning professionals alike (see Figures 9.3.1, 10.3.1, 11.3.1 and 12.3.1).

Figure 13.1 The 'Absolute Hierarchy of Vulnerability'



The respondents were asked 17 questions, which were scored, expressed as a % and aggregated.

Agreement is also evident in relation to the designs perceived as being the safest ('Semi-detached Housing A', 'Detached Housing B' and 'Detached Housing A'), although the burglars perceived these least vulnerable designs to be relatively more vulnerable than all the other groups. Furthermore, 'Detached Housing A' was considered to be the least vulnerable by the burglar sample group, perhaps reflecting the potential problems that may be encountered when attempting to scale the wall. Indeed, this group made no reference to poor visibility and lack of surveillance relating to the high exterior wall – contrary to the sentiments of all other groups.

Another noteworthy finding is that 'Terraced Housing A' was considered to represent the fourth safest design. In consideration of the results from the quantitative analysis, this further strengthens the case for deliberating upon the appropriateness of this design, given the recent house-building projections (DOE, 1995) and the campaign to improve urban design (DETR, 1999).

Interestingly, the planning professionals perceived 'Semi-detached Housing B' to be significantly more vulnerable than the other groups. This was also the case for the other two designs with visible 'signs of decay', perhaps suggesting that they attach more importance to the condition and maintenance of these housing designs in constructing their vulnerability ratings.

Generally speaking, Newman's theory is consistently supported, particularly with reference to MDUs and the designs with visible 'signs of decay'. With the recent call for high-density urban housing design, both these findings certainly warrant consideration.

Table 13.2. Housing Design and Perceived Vulnerability

Housing Design	Burglars (max 3400)	Planning Professionals (max 3400)	Police Officers (max 3400)	Young Adults (max 3400)	All Groups (max 13,600)
High-rise Flats A and B	2050	2390	2590	2520	9550
Low-rise/walk-up Flats A and B	1840	2220	1790	2280	8130
Terraced Housing A and B	1720	1730	1530	1960	6940
Semi-detached Housing A and B	1380	1460	1160	1270	5270
Detached housing A and B	780	620	590	510	2500

Note: The scores for each design type were aggregated to produce a maximum score of 3,400. A total score of 13,600 therefore represents the limit of the 'Absolute Hierarchy of Vulnerability' for ALL the four sample groups.

The presentation of each image on a design-by-design comparison reveals further interesting insights (see Table 13.2). Although the hierarchies are similar at the extremities, the burglars appear to exhibit a more constrained hierarchy where variation and range is less evident, perhaps reflecting learned caution or the possibility of apprehension. The least vulnerable designs were also considered by this group to be more vulnerable when compared to the other groups. The young

adults appear to have viewed the designs in a more polarised fashion, as highly vulnerable or significantly less vulnerable.

Finally, the police officers perceptions of the high-rise designs as substantially more vulnerable than all other designs cannot be understated. Table 13.2 presents the perceived vulnerability scores for all sample groups, for each design type.

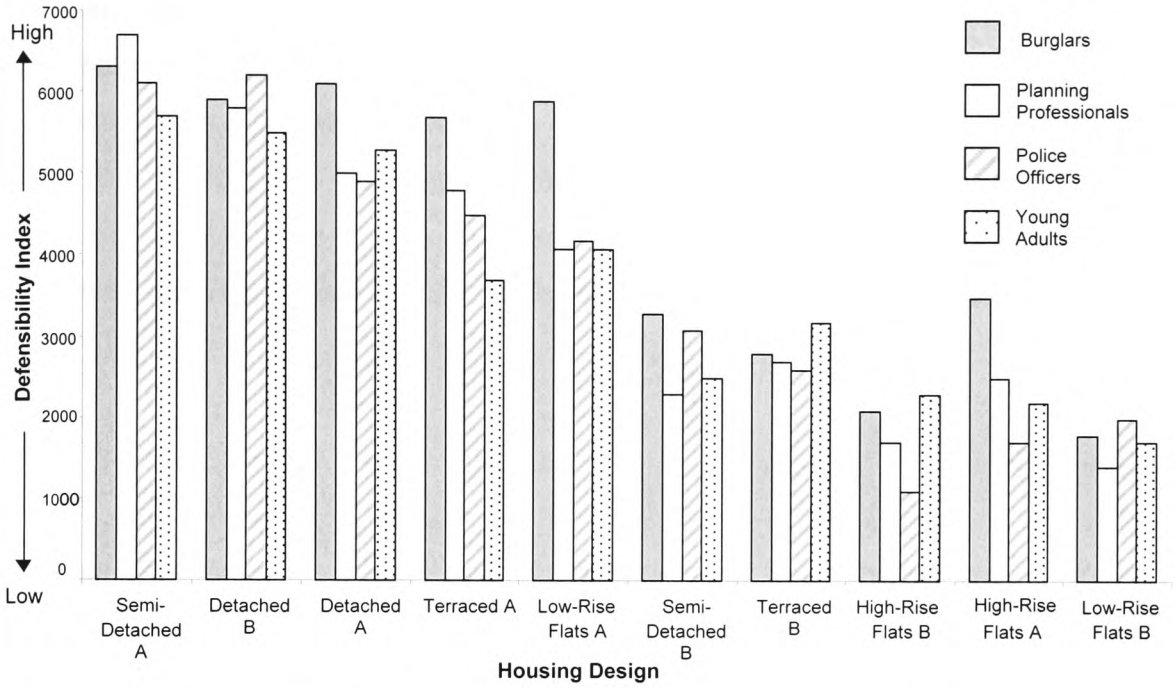
13.2.2 Perceptions of Defensible Space

Figure 13.2 illustrates the responses of all the groups combined, with reference to perceptions of 'defensible space'. 'Semi-detached Housing A' was clearly perceived as the most 'defensible' design with a total rating of 2480 out of 2800. This was closely followed by 'Detached Housing B' (2340), 'Detached Housing A' (2130), 'Terraced Housing A' (1870) and 'Low-rise/walk-up Flats A' (1830), which were all considered to possess relatively high levels of defensibility. Five other designs were considered to possess lower levels of defensibility. These were 'Terraced Housing B' (1130), 'Semi-detached B' (1120), 'High-rise Flats A' (990), 'High-rise Flats B' (720), and the least defensible design; 'Low-rise/walk-up Flats B (690). The hierarchy in terms of defensibility, closely resembles the 'Absolute Hierarchy of Vulnerability' (see Figure 13.1) in that vulnerable designs were those with the lowest levels of defensibility and vice versa. This strongly suggests that 'defensible space' qualities are important elements in determining the overall image and perceived vulnerability for each design.

Significantly, the 'Low-rise/walk-up Flats A' (1830) were perceived as being significantly more defensible than 'Low-rise/walk-up Flats B' (690), which possessed a lower standard of maintenance, and was considered the poorest, in terms of defensibility. Furthermore, when aggregated, the high-rise designs were considered to be the least defensible of all the designs, firmly supporting Newman. The better-maintained versions of most designs were considered as more defensible than their counterparts. This was not the case for the 'Detached Housing B' which was considered to be marginally less vulnerable (Figure 13.1) and more defensible (Figure 13.2) than 'Detached Housing A'. The high wall, the 'fortress-like' and overtly private appearance may explain this to some extent. Indeed, as revealed in the qualitative comments in the respective Chapters 9,10, 11 and 12, the high exterior boundary wall may well have affected perceived levels

of surveillance. Significantly, 'High-rise Flats A' were regarded as being more defensible than 'High-rise Flats B' yet also more vulnerable. This might be explained by the potential rewards that may be associated with the 'private' appearance of this design.

Figure 13.2 Perceptions of Defensible Space



The respondents were asked 7 questions, which were scored, expressed as a % and aggregated.

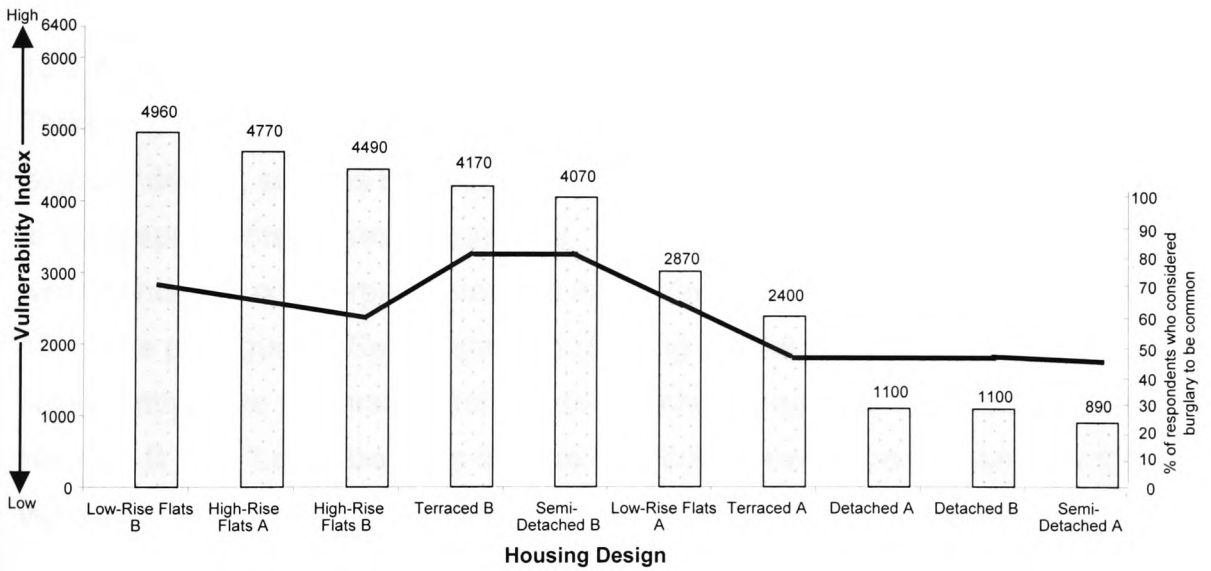
Inter-group comparison reveals strong agreement at both the ends of the spectrum. The police officers, however, considered both of the high-rise designs to possess the lowest defensibility scores. Newman's theory is certainly supported in this regard. Significantly, the burglars viewed all designs to be far more defensible than the other sample groups with a total of 4340/7000. This may be explained to some extent by the burglars considering the risk of apprehension and the actual process of gaining entry in order to offend.

13.2.3 The 'Absolute Hierarchy of Vulnerability' and 'Expected Burglary'

As previously discussed, reference to Figure 13.1 reveals that 'Semi-detached Housing A' is perceived as being the least vulnerable and the most defensible design (Figure 13.2). It engendered the joint lowest levels of fear (see Figure 13.5), and was universally preferred as a place of residence (see Table 13.4). Figure 13.3 illustrates the 'Absolute Hierarchy of Vulnerability', and introduces an

additional dimension representing the level of anticipated burglary for each design type. As can be seen in Figure 13.3 the combined sample group perceived burglary to be more common in some designs than in others. Expected burglary rates for all sample groups collectively ranged from 48% ('Semi-detached Housing A') to 78% ('Terraced Housing B' and 'Semi-detached Housing B'). Significantly, the three designs with the highest expected levels of burglary were those with visible 'signs of decay'. The higher perceived vulnerability of 'Semi-detached Housing B' (78%) compared to 'Semi-detached Housing A' (48%) clearly demonstrates the powerful influence of 'signs of decay', and by implication, the vital role of rapid and effective maintenance and property management.

Figure 13.3 The 'Absolute Hierarchy of Vulnerability' and 'Expected Burglary'



The four groups of respondents were each asked 16 questions, which were scored, expressed as a % and aggregated. The maximum score is therefore 6,400.The black line represents responses to a separate question and superimposes 'expected burglary' levels onto each design.

Inter-group comparison reveals that the burglars and the police expected burglary to be more pronounced in the less vulnerable designs (see Figure 9.3.3 and 11.3.3). This is in contrast to the planning professionals and young adults who instead believed burglary would be less prominent as the designs became 'safer' according to the 'Absolute Hierarchy of Vulnerability'. The crucial 'occupational' experience of both burglars and police officers may be colouring their perceptions.

Overall, and perhaps understandably, considering their peculiar/specialist understanding of burglary, the convicted burglars possessed the highest total expected burglary across all designs (79%). This was followed by the police (57%), who are also relatively familiar with burglary. Finally, the planning professionals and young adults (both 53%) expected burglary to be less prominent across all designs.

Significantly, 'Terraced Housing A' was not felt by the police to be particularly vulnerable to burglary (20%), while the burglars regarded it as significantly more at risk (70%), although relatively speaking, this group regarded all designs to be more vulnerable. In terms of overall expected burglary, 'Terraced Housing A' was considered to possess one of the lowest levels according to all groups; an intriguing design insight for new-build housing.

13.2.4 'Signs of Decay' and Comparing Design Versions 'A' and 'B'

Three of the ten images selected for this research deliberately contained visible 'signs of decay', such as boarded-up windows or graffiti, which were clearly visible to the respondents viewing the images. The comparison of such designs with their well-maintained counterparts provides interesting findings, as illustrated in Figure 13.4. The poor quality 'Semi-detached Housing B' was considered to be significantly more vulnerable than 'Semi-detached Housing A'. Similarly, 'Terraced Housing B' and 'Low-Rise Flats B' were both considered to be substantially more vulnerable than their better-maintained counterparts.

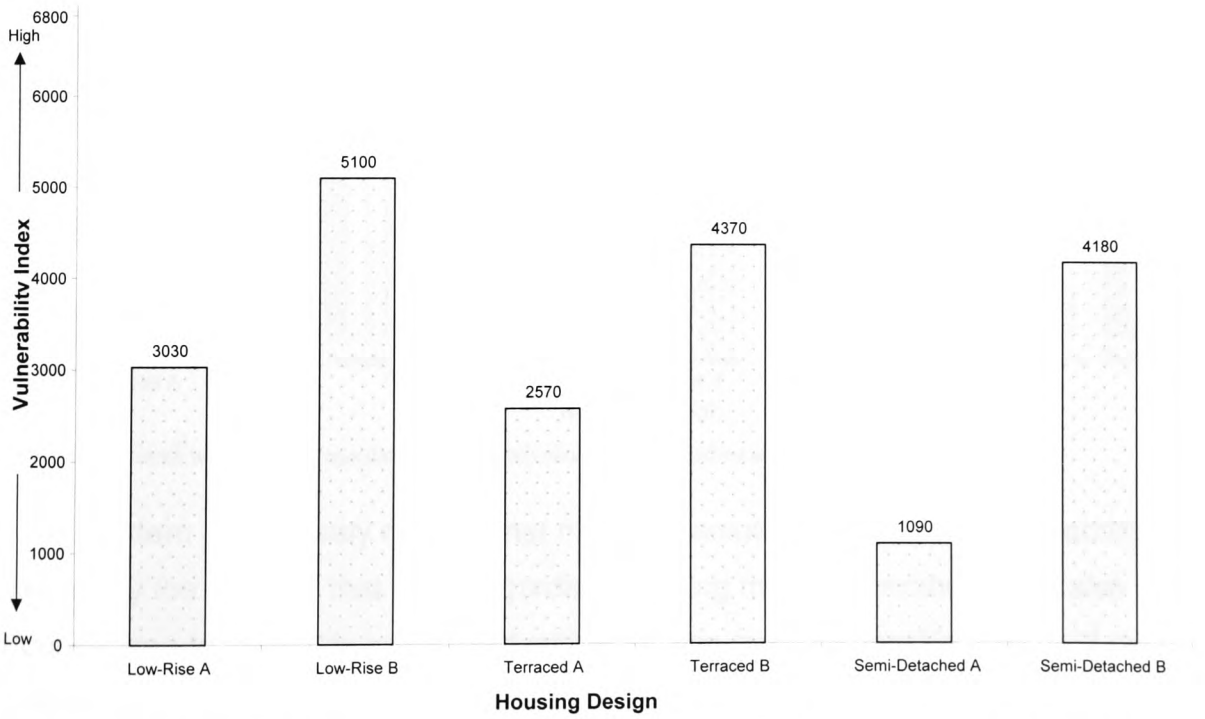
Comparing this data for all the sample groups, it is clear that agreement exists regarding the perceived differences between designs 'A' and 'B', in terms of vulnerability. These findings suggest that although 'signs of decay' were decoded as negative environmental indicators by each of the sample groups, the degree of influence varies between these cohorts. The operational activities of the planning professionals and the police may partly explain their perspective and the young adults' limited experiences could explain their responses in this regard.

Surprisingly perhaps, the burglars perceived the vulnerability of 'Semi-detached Housing A' and 'B' in the least dichotomised manner. One possible explanation is

the lack of imagined rewards offered by 'Semi-detached Housing B' in comparison to the better-maintained design.

Reference to Figure 13.1, the 'Absolute Hierarchy of Vulnerability', reveals that three out of the five less well-maintained examples were considered as blatantly more criminogenic than their well-maintained counterparts. This was not the case for both 'Detached Housing' and 'High-rise Flats', where design 'A' was considered more vulnerable than design 'B'. This can be explained by the perceived 'fortress-like' features in 'Detached Housing A' and the 'hard' image of the concrete structure 'High-rise Flats A', in combination with recent and obvious renovation work to High-rise Flats B'. Significantly, these design types did not possess visible 'signs of decay' and were not so readily differentiated as those that did. Consequently, the perception of 'A' and 'B' for these two designs was not so polarised. Further research into this may prove particularly rewarding.

Figure 13.4 'Signs of Decay' and Comparing Design Versions 'A' and 'B'



The four groups of respondents were each asked 17 questions, which were scored, expressed as a % and aggregated. The maximum score is therefore 6,800.

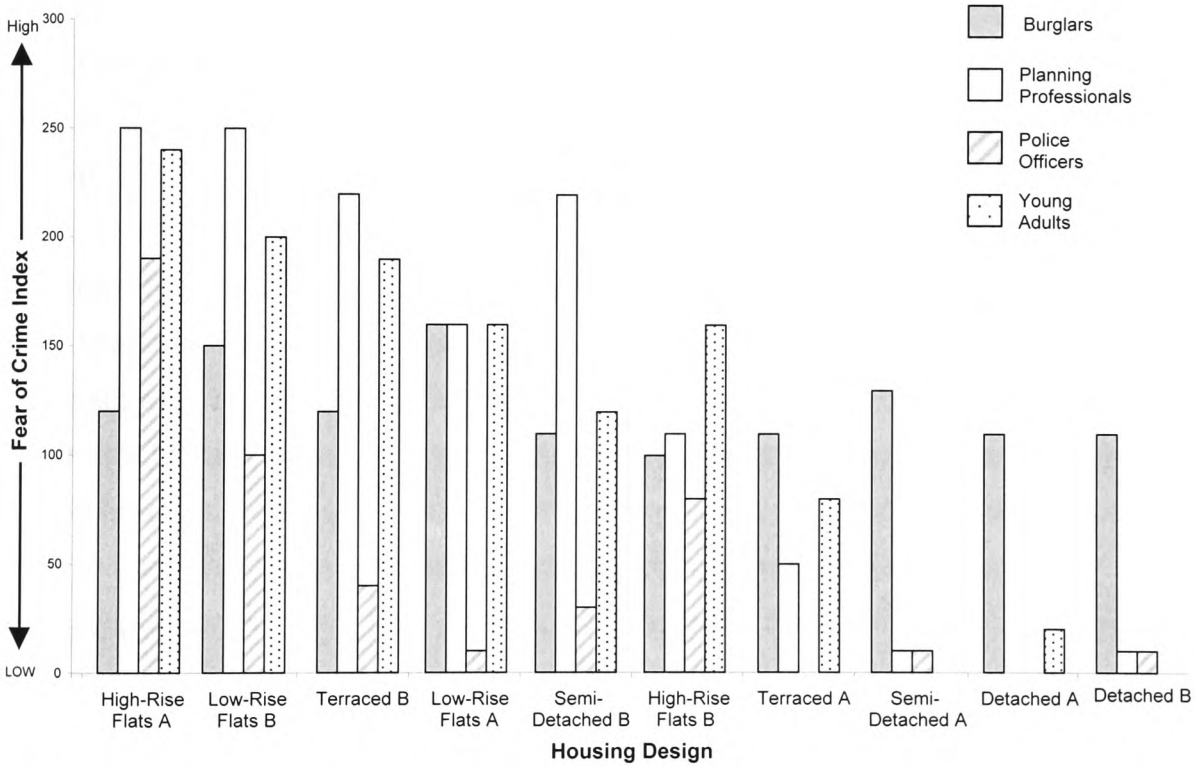
It is apparent that 'defensible space' thinking has been demonstrably supported by the findings. MDUs and all designs exhibiting 'visible signs of decay' were

perceived as being less defensible than other designs. In terms of both 'image' and building height, Newman's ideas are confirmed (Newman, 1973; Newman and Franck, 1980, 1982). Furthermore, the works of Wilson and Kelling (1982) and Kelling and Coles (1996) are also underpinned.

13.2.5 Fear of Crime and Design

Figure 13.5 provides a graphical representation of the three questions asked which focused on the fear of crime and reveals how the levels vary significantly between each respective design and for each sample group.

Figure 13.5 **Fear of Crime and Design**



The respondents were asked 3 questions, which were scored, expressed as a % and aggregated.

This pattern only loosely reflects that of the 'Absolute Hierarchy of Vulnerability', whereby the designs that were regarded as being more vulnerable, were also considered to be highly associated with fear. The most vulnerable design ('Low-rise/walk-up Flats B') was considered to possess a total fear level of 700/1200, while 'High-rise Flats A' were considered to engender more fear (800/1200). The relatively low levels of fear associated with 'High-rise Flats B' may be attributed to the apparent and recent renovations to this design. At the other end of the scale, the detached properties engendered the lowest fear levels (both 130/1200).

Inter-group comparisons reveal that the total fear level for each cohort varied considerably. The police officers understandably, and perhaps encouragingly, possessed the lowest fear level of 460/3000 with a significant 80% (370/460) of such fear attributable to a combination of 'High-rise Flats A' (190/300), 'Low-rise/walk-up Flats' (100/300) and 'High-rise Flats B' (80/300). The burglars, who regarded all designs in a particularly non-polarised fashion (see Figure 9.3.5) possessed a total group fear level of 1080, and regarded all designs as being relatively similar in their potential to induce fear. The constrained range for the burglars was 100/300 for 'High-rise Flats B', peaking at 160/300 for 'Low-rise/walk-up Flats B'. The young adults and planning professionals possessed somewhat higher total fear levels of 1180 and 1280/3000 respectively. Both these groups revealed a more polarised hierarchy of fear, with a similar dominant fear of MDUs and designs with 'signs of decay'. There were significantly lower fear levels for SDUs, particularly concerning those designs regarded as safe according to the 'Absolute Hierarchy of Vulnerability' (see Figure 13.1).

Perhaps the most significant finding in this data involves the extensive variation in fear levels for each design typology as expressed by each group (see 13.5). The burglars may be expressing potential risk of apprehension in addition to fear, since their fear hierarchy was relatively constant, even for those designs regarded as being least vulnerable. The police preferably need to demonstrate low levels of fear in their operations, yet they clearly regarded high-rise designs as being significant fear-inducers. The planning professionals (with the highest aggregated group fear level) were highly fearful of 'High-rise Flats A', and those designs with visible 'signs of decay' ('Low-rise/walk-up Flats B', 'Terraced Housing B' and 'Semi-detached Housing B'). Finally, the young adults possessed a highly polarised view of the designs, perhaps reflecting their relative lack of experience of all the designs, or more controversially, the contemporary influence of media representations of 'positive' and 'negative' housing designs may be implicated. Extensive research (Hale, 1996; Goodey, 1997) has found the men routinely possess lower levels of fear, and although the young adults confirmed this trend, the sample size necessitates that such a finding is treated with caution. More specifically, a gender analysis was not a stated research objective, though such an investigation in the future may certainly prove interesting.

In general, the four MDU's were again more prominent, with a average total fear level for the four sample groups of 2440/4800 (51%). These designs clearly engender significantly higher levels of fear than the six SDU's, which, together totalled 1700/7200 (24%). The most fear-inducing design was 'High-rise Flats A' (800/1200), followed by 'Low-rise/walk-up Flats B' (700/1200). This data therefore provides further support for Newman (Newman, 1973; Newman and Franck, 1980, 1982) in the condemnation of MDU's and also demonstrates support for the 'private' well-maintained SDUs. Significantly, low levels of fear of crime were perceived with regard to 'Detached Housing B' (130/1200), 'Detached Housing A' (130/1200) and 'Semi-detached Housing A' (150/1200), while 'Terraced Housing A' (240/1200) was also considered to engender relatively low levels of fear. The importance of geographically locating and mapping the fear of crime has been discussed (Brantingham and Brantingham, 1977; Vrij and Winkel, 1991), though some (e.g. Harries, 2000), regard it as a relatively under-researched area. The findings presented here may contribute significantly to this complex and intriguing topic.

13.2.6 Residential Preferences

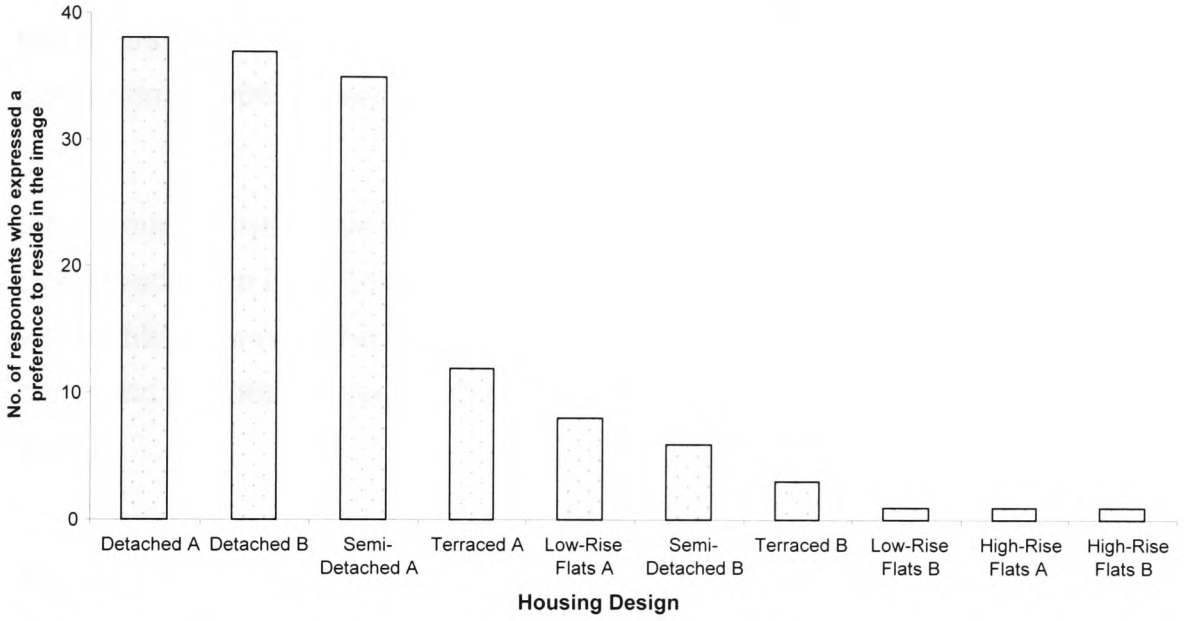
Reference to Figure 13.6 reveals that all the four sample groups interviewed possessed a strong desire to personally reside in only three of the designs; 'Detached Housing A' (380/400), 'Detached Housing B' (370/400) and 'Semi-detached Housing A' (350/400). Moderate preference existed for 'Terraced Housing A' (120/400) while lower levels of preference were recorded for all other designs.

Significantly, much of the limited preference for these other designs actually derives from the burglars. Perhaps, in consideration of their place of residence at Her Majesty's pleasure at the time of interview, a desire to live anywhere else is not surprising. However, this group nonetheless preferred broadly similar designs to all the other cohorts interviewed, particularly the three 'safest' designs of 'Semi-detached Housing A' and 'Detached Housing A' and 'B'.

The majority of all respondents were in overwhelming agreement that they would prefer not to reside in any of the following designs; 'High-rise Flats A' (10/400), 'High-rise Flats B' (10/400), 'Low-rise/walk-up Flats B' 10/400), 'Terraced Housing

B' (30/400) and 'Low-rise/walk-up Flats A' (80/400). The pattern for preferences can be seen to closely reflect the 'Absolute Hierarchy of Vulnerability' (Figure 13.1), indicating that preference and perceived vulnerability are intricately interwoven. There was minimal variation between the groups, with the exception of the burglars, who expressed significantly higher preference levels for all the housing types.

Figure 13.6 **Residential Preferences**



Note: Forty respondents answered one question, which was scored and aggregated.

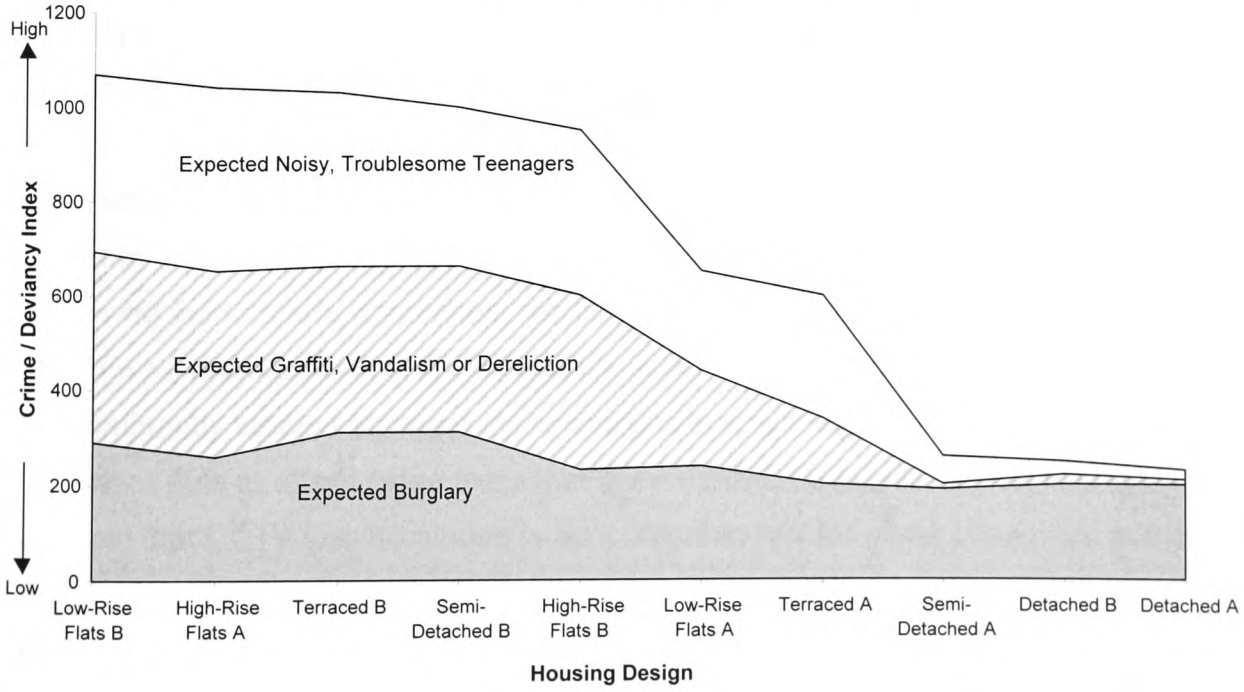
13.2.7 The Crime/Deviancy Index

Figure 13.7 presents the results for the three questions designed to probe perceived crime/deviancy levels. There appears to be a pattern that loosely reflects the 'Absolute Hierarchy of Vulnerability' and the trends established in the qualitative analysis. The five most vulnerable designs (see Figure 13.1) predictably possessed high levels of expected crime/deviancy, while 'Low-rise/walk-up Flats A' and 'Terraced Housing A' had potentially less crime and deviancy. Furthermore, the three designs perceived to be the most 'positive' ('Semi-detached Housing A and 'Detached Housing A and B') were regarded as possessing significantly lower levels of expected crime/deviancy.

Crucially, the three designs with clearly visible 'signs of decay' ('Terraced Housing B', 'Semi-detached Housing B' and 'Low-rise/walk-up Flats B') were associated with the most extensive levels of potential crime, disorder and deviancy along with the two high-rise designs. Images with 'signs of decay' and MDUs were therefore viewed as being extensively more criminogenic than the SDUs and better-maintained examples of the same design typology ('Terraced Housing A', 'Semi-detached Housing A' and 'Low-rise/walk-up Flats A'). It is apparent that 'expected burglary' was considered to be relatively constant across all designs, while the expected incidents of graffiti, vandalism and dereliction and noisy troublesome teenagers declined dramatically as the designs became progressively 'safer'. Socio-demographic associations were clearly being made in this regard.

Inter-group analysis reveals that agreement was demonstrated regarding an overall reduction in crime/deviancy as the designs became progressively less vulnerable. However, the burglars perceived a clear rise in burglary within the crime and deviancy index, for the three most vulnerable designs (see Figure 9.3.6).

Figure 13.7 Crime and Deviancy Index



The respondents from each of the four groups were asked 3 questions, which were scored, expressed as a % and aggregated. The maximum score is therefore 1200.

Noisy, troublesome teenagers and graffiti/vandalism/dereliction were all perceived to exist at high levels in the seven most vulnerable designs, and perceptions fall sharply for those designs regarded as being the safest.

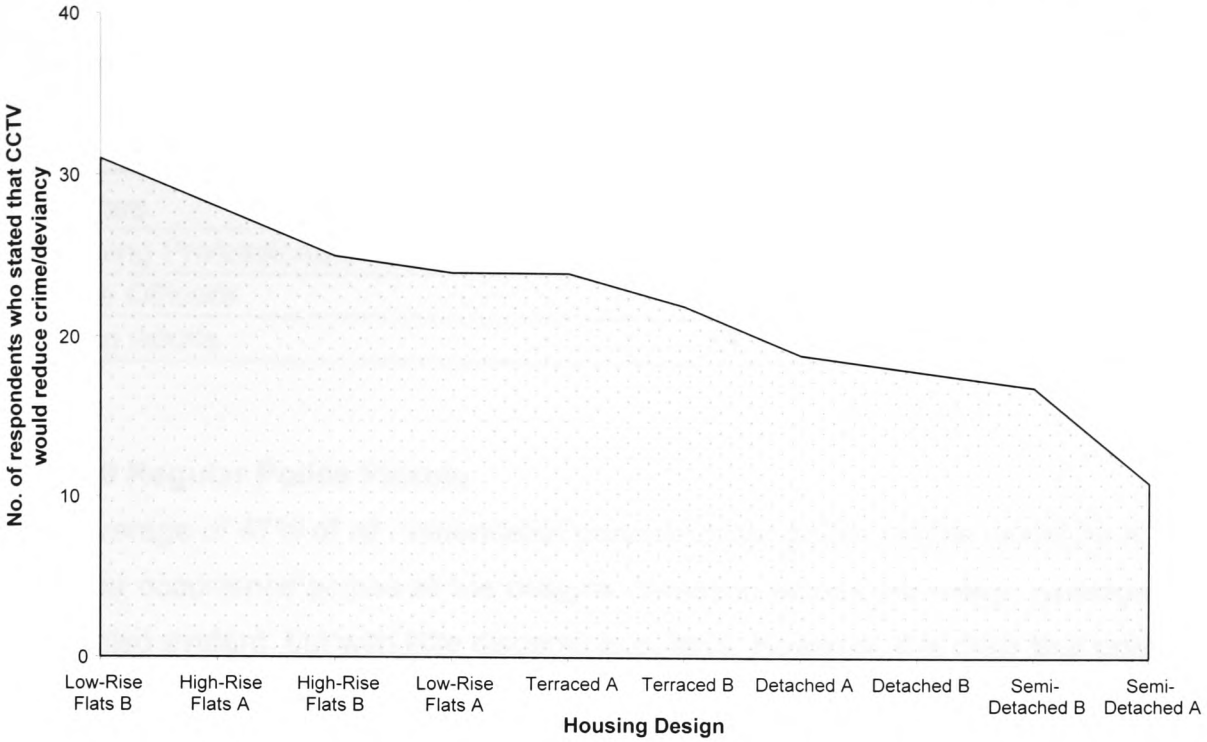
Another interesting trend is that the planning professionals' graph is clearly hierarchical and structured – with criminality gradually reducing along with vulnerability to the extent that expected graffiti, vandalism and dereliction and noisy/troublesome teenagers are not expected at all, for either 'Detached Housing A' or ' B' or 'Semi-detached Housing A'(see Figure 10.3.6). The police officers and young adults, on the other hand, viewed the designs in a more polarised fashion with markedly high and low, crime and deviancy ratings.

This particular inquiry has certainly revealed some interesting perspectives regarding expected crime/deviancy. The importance of this issue is clearly evident when considering the possibility that behavioural changes may occur as a result of these perceptions, further reducing the potential for social cohesion and sense of community, while increasing stigmatisation.

13.2.8 The Perceived Effectiveness of CCTV

There appears to be limited agreement concerning the overall effectiveness of CCTV in reducing socially unacceptable and illegal behaviour, with an average of 49% of all respondents perceiving CCTV to be effective across all ten designs. Figure 13.8 presents the data for each design typology and reveals that CCTV was perceived to be a particularly useful tool, by all groups for reducing crime / deviancy especially in the high and low-rise flats. It would appear that, as perceived vulnerability decreased, the utility and effectiveness of, or necessity for, CCTV was seen to decline. CCTV installations in residential areas tend to be predominantly located amongst those designs that are least vulnerable to crime and more able to afford these and other preventative measures. These findings suggest that CCTV was perceived to be a valuable tool for crime prevention in the most vulnerable neighbourhoods by the sample groups interviewed. Notwithstanding the obvious civil liberties considerations, this area of study certainly warrants further deliberation and research.

Figure 13.8 The Perceived Effectiveness of CCTV for each Housing Design



Note: Forty respondents answered one question, which was scored and aggregated.

Interestingly, though possibly coincidentally, Figure 13.8 reveals that the perceived effectiveness of CCTV is found to be largely design-specific. A hierarchy exists in terms of the five designs. However, little differentiation was demonstrated with regard to the contrasting versions (A and B designs) of each design. This may suggest that the coverage and effectiveness of CCTV was perceived to remain relatively unchanged relating to similar design configurations.

Table 13.3 presents the perceptions of all groups regarding the average effectiveness of CCTV across all ten designs. The perceived effectiveness of CCTV for each of the ten designs was aggregated and expressed as a percentage to indicate the average effectiveness of CCTV across all the designs.

It is interesting to note the similarity between the police and burglar groups, perhaps explained by their routine operational activities. However, the planning professionals and young adults clearly perceived the effectiveness of CCTV to be less marked. Indeed, the perceptions of residents, the elderly and other users of residential space may broaden our understanding of this topic.

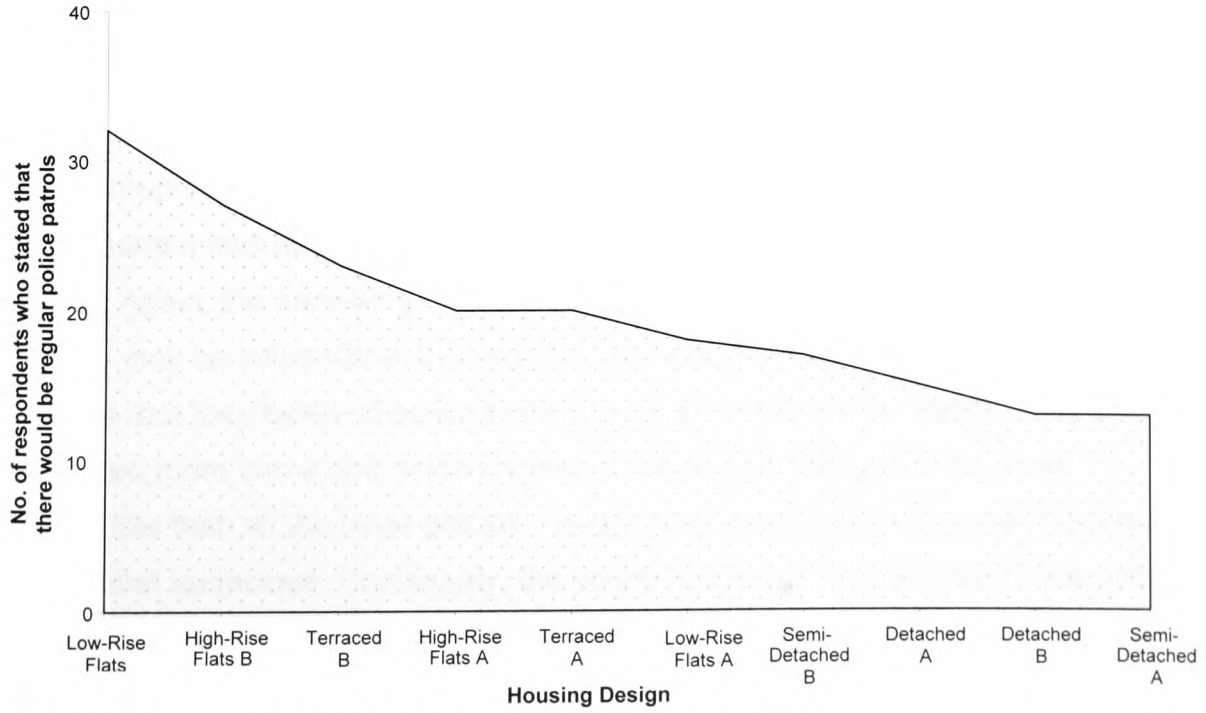
Table 13.3 The Perceived Effectiveness of CCTV across all Designs

Sample Group	% who perceived CCTV to be effective in reducing incidents of socially unacceptable or illegal behaviour across *ALL* designs
Burglars	58
Planning Professionals	42
Police Officers	57
Young Adults	38

13.2.9 Regular Police Patrols

An average of 47% of all respondents perceived that police patrols would be a regular occurrence across all the designs. Variation across the design typologies was also evident, but with little discernible pattern. However, it is clear that police patrols were considered to be less likely with the least vulnerable designs of 'Semi-detached Housing A', 'Detached Housing B', 'Detached Housing A'. Interestingly, for 'Semi-detached Housing B', with visible 'signs of decay', regular police patrols were not regarded as being common. For the other two designs exhibiting such negative environmental cues, such patrols were perceived to be more likely.

Figure 13.9 Regular Police Patrols



Note: Forty respondents answered one question, which was scored and aggregated.

The presence of police patrols only marginally reflects the 'Absolute Hierarchy of Vulnerability' (Figure 13.1). Figure 13.8 demonstrates that regular police patrols were regarded as being more common in the most vulnerable designs such as 'Low-rise/walk-up Flats B', 'High-rise Flats B' and 'Terraced Housing 'B'. Police patrols were also expected to a lesser degree with 'High-rise Flats A' and 'Terraced Housing A'. Table 13.4 presents the overall perceptions of all groups and reveals some variance.

The perception of police patrols seems to be highly complex. It is interesting to note that some of the police officers commented that, operationally, patrols (vehicular and on foot) were no longer a central aspect of policing, and that responding to the incidence of crime was more characteristic of policing policy. In stating that, an average of 47% of police officers nevertheless believed patrols to be commonplace across all the ten designs.

Table 13.4 The Perceived Presence of Regular Police Patrols

Sample Group	Average % of respondents who perceived police patrols to be common for *ALL* design typologies
Burglars	59
Planning Professionals	46
Police Officers	47
Young Adults	36

Inter-group comparison further reveals that the burglars and police officers possessed a less polarised view than the planning professionals and the young adults. Again, the knowledge of both groups regarding the presence of police patrols may be influential in this regard. Crucially, the perceptions of burglars reveals that they believed police patrols to be a more common event. They also expected more crime and deviancy and perceived the designs to be more defensible than all the other groups – suggesting their 'rational' choice to offend is somewhat audacious. Conversely, the young adults did not perceive police patrols to be as common, and they regarded the designs to be both more vulnerable and less defensible overall.

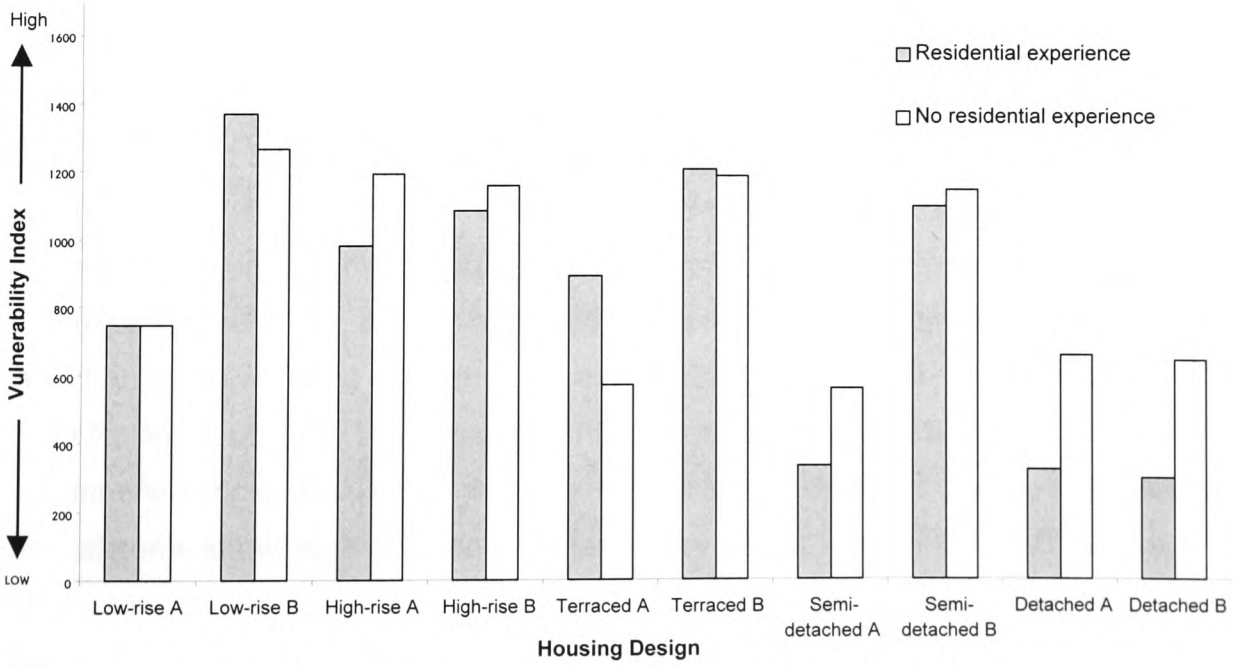
Upon reflection, a more precisely directed question enquiring as to the effectiveness of police patrols rather than their perceived existence, may well provide more cogent findings.

13.2.10 Residential Experience and the 'Absolute Hierarchy of Vulnerability'

Figure 13.9 below, reveals how residential background influenced the perception of vulnerability of each image. It appears that residential background, for all the groups, did not significantly affect their overall perception of any design, in terms of vulnerability. There is some pattern whereby vulnerability was considered to be higher by those who had not resided in 'High-rise Flats A and B', 'Semi-detached housing A and B', and most significantly, 'Detached housing A and B'. In the case of the detached designs, and the well-maintained 'Semi-detached housing A', the difference is more pronounced, and may be explained by notions of potential rewards associated with these designs by those who had no residential experience of such housing types.

Figure 13.10

Residential Experience and the 'Absolute Hierarchy of Vulnerability'



Note: Respondents answered 17 questions, which were scored, expressed as a % and aggregated.

Significantly, the police officers seem to be distorting this trend, since reference to their data sets reveals that the vulnerability levels for those who had resided in detached designs were significantly lower than those who had not. The exception applies to young adults who had resided in 'Detached' properties, who expressed a far lower average vulnerability score (200/1700) than those who had not resided in such dwellings (560/1700).

No young adults, planning professionals or police officers had resided in high-rise flats, and consequently no comparison can be drawn. This was also the case for police officers and low-rise flats. Apart from the burglars, all the groups perceived all of the designs, collectively, to be marginally more vulnerable if they had not resided in them. This trend was most pronounced in the police officers. However, variation across designs was significant and complex in character, thereby obscuring the precise meaning of this data. Indeed, these findings may reflect the frailties of the measuring instrument as much as revealing the highly complex influence of residential experience upon perceptions. This investigation has nonetheless highlighted this crucial area of research and provided some useful signposts for further investigation.

13.2.11 Crime Experience and Fear of Crime

The three fear of crime questions generated a total score of thirty, as an 'Absolute Hierarchy of Fear' for each individual respondent. This was expressed as a percentage and therefore indicates the average potential level of fear for each sample group relating to all the designs, as presented in Table 13.5.
As might be expected, the burglars, planning professionals and young adults who had experienced crime, directly or indirectly, expressed higher potential levels of fear than those who had no such crime experiences. Intriguingly, this was not the case for police officers. This group had higher fear levels if they had not experienced crime. The limited nature of the police officers' data, particularly since all had some knowledge of crime experienced by others, both in 1999 and before, necessitates a cautionary approach to this issue. Their low fear levels may also have influenced this data.

Table 13.5 Crime Experience and Fear of Crime

(Fear of Crime Level Expressed as an average %)

Crime Experience of respondents	Burglars	Planners	Police	Young Adults	All Groups
Victims of crime 1999	26	58.9	16.7	38.3	**35**
Non-victims pre-1999	14	57.6	15.2	37	**31**
Victims of crime pre 1999	25	67	13	39	**36**
Non-victims pre-1999	17	56	23	42	**35**
Know victim of crime in 1999	19	59	0	47	**42**
Don't know victim in 1999	23	53	0	25	**34**
Know victim of crime pre-1999	22	58	0	42	**41**
Don't know victim pre-1999	3	0	0	20	**12**
Crime Experience (average for all categories)	**23**	**61**	**15**	**42**	**35**
No Crime Experience (average for all categories)	**14**	**56**	**19**	**31**	**30**

Of the number of respondents who were victims of crime in 1999 (totalling 11/40), five were burglars. This may signify that these burglars were more vulnerable to crime in their own residential environments, or that their admission of crime experience referred more precisely to their involvement as perpetrators of such crimes.

13.2.12 Summary

The perception in the built environment is clearly a highly complex and intricate area of investigation. Social messages and associations were clearly being constructed and utilised to contribute significantly to an overall understanding of the designs. Newman's theory of 'Defensible Space' is repeatedly supported with regard to the perceptions of low-rise/walk-up flats, high-rise flats, terraced, semi-detached and detached housing. SDUs, with increased levels of privacy, territoriality, maintenance and overall 'image' were, in combination, perceived to represent safer designs with lower fear levels and were regarded as possessing higher levels of defensibility. Public, multiple-occupancy designs exhibiting lower levels of territoriality and maintenance and a poorer 'image' were perceived to be significantly more vulnerable to crime and deviancy, they generated higher levels of fear and lower levels of defensibility.

The 'Absolute Hierarchy of Vulnerability' has provided a most useful scale for the gradation of housing designs and reveals a clear preference for 'Detached

Housing B'. The suburban 'Semi-detached Housing A' was also a preferred design, along with 'Detached Housing A'.

The appearance of 'visible signs of decay' in selected images has been shown to be a powerful influence upon perceptions and Newman's third concept of 'image and milieu' is supported in addition to underpinning the findings of Wilson and Kelling (1982) and Kelling and Coles (1996).

This investigation has provided some indication that residential experience may be linked to perceived vulnerability in certain designs, although the findings are, as yet, inconclusive. The same may be said of crime experience, although these patterns are marginally more apparent and discernible. Further investigation may illuminate this aspect of the research.

Clearly, the user groups collectively regarded 'Low-rise/walk-up Flats B' and the two high-rise designs to be the highly vulnerable (Figure 13.1) and lacking defensibility (Figure 13.2), in addition to being highly criminogenic designs (Figure 13.6). 'High-rise Flats A' was perceived to engender the highest level of fear, particularly from the perspective of the police officers who exhibited low levels of fear generally. Significantly, the data also reveals that all groups considered the well-maintained 'Terraced Housing A' as representing low levels of vulnerability, expected burglary and fear of crime. Generally, this was regarded as being highly defensible, particularly by the burglars, though not by the young adults. The residents associated with this design were considered to be more likely to intervene than those associated with 'Detached housing A'. The role of the bay windows in maximising surveillance opportunities is a detailed issue that warrants further investigation. Indeed, this design feature is also evident in the highly defensible 'Semi-detached housing A' (see Figure 8.4). 'Terraced housing A' was not however, considered as being a preferred residence. Nevertheless, such findings are certainly significant, particularly regarding the contemporary discussion concerning the need for improved design (DETR, 1999) and for high-density housing to meet current house-building projections (DOE, 1995).

The user groups interviewed, as abusers (burglars), designers (planning professionals), managers (police officers) and users (young adults) of urban

space, perceived clear and distinct patterns within the housing designs presented. There are strong generalised similarities, while there are also significant and crucial differences in the perceptions of each group, and to a limited extent, within each group. Significantly, Newman's 'Defensible Space' theory is supported by the investigation and presentation of the findings from all user groups interviewed. Ham-Rowbottom (1999) has opined that the perception of 'defensible space' may vary from one group to the next, in relation to detached properties specifically and Tijerino (1998) has stressed the crucial role of 'perceptions' in 'defensible space' theory. This research has compared the perceptions of four key user groups in relation to the most common British housing designs and found 'defensible space' to be cognitively identified and understood. The intricacies of, and the extent to which behavioural patterns are affected by these perceptions, is an area for future investigation. Wilson and Kelling (1982) have discussed the effect of environmental degradation upon the level of informal social controls and Saville (1996) has re-stated specific ideas concerning the urban threshold in the form of the 'tipping point'. In consideration of both works and the findings presented above, this research project suggests that the continual maintenance and management of residential housing, and particularly the rapid repair and renovation of vacant or derelict buildings are crucial factors in the design-affects-crime debate. The dynamic characteristics of the socio-spatial environment built are perceived by different groups in different ways. However, certain designs are demonstrably perceived to be safer, while others are regarded as patently unsafe. The perceptions of these groups have indicated powerfully, that an 'Stratification of Place' (Logan, 1978) may exist for all the groups, where both commonalities and pluralities of perspective are evident. Crucial socio-economic associations and the perceived deterioration of the environment may well result in 'defensible' space becoming 'undefended', offensible' and finally 'indefensible', where informal social controls are minimal, possibly becoming non-existent.

The insights that such an investigation has provided, are intriguing and valuable, though suggestive and exploratory, rather than conclusive. The conclusions, policy implications and future research which emanate from these findings will receive detailed deliberation and comment in the final chapter.

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Chapter 14

Conclusions, Policy Implications, Future Research and Limitations

14.1 Conclusions

Several conclusions can be drawn from the findings discussed in Chapters 9, 10, 11, 12 and 13. These are presented below.

14.1.1 'Defensible Space' Perceptions

For all of the sample groups studied, the findings clearly and emphatically support Newman's theory of *'Defensible Space'* (1973). SDUs, that were perceived to be 'privately' owned and well-maintained, were considered to be significantly more defensible, less vulnerable to crime and deviancy, and to possess potentially lower levels of fear. Conversely, MDUs perceived to be 'public' and poorly-maintained were viewed as being less defensible, more vulnerable to crime and deviancy and were associated with considerably higher levels of fear. Indeed, in terms of territoriality, Newman (1973) stated that "as one moves to denser and denser agglomerations – to row houses, walk-up flats and high-rise apartments – opportunities for individual and collective efforts at defining territoriality become increasingly difficult" (Newman, p52). These sentiments are confirmed by this research.

Interestingly, Chapter 13 reveals that 'Semi-detached Housing A' was considered by all groups collectively to be the safest and most defensible design. The 'detachment' represented by the detached designs was clearly evident in the comments concerning the high exterior boundary wall present in 'Detached Housing A' and suggest that there may be a 'defensible space' threshold. Excessive 'defensible space' was perceived to hinder and undermine the crucial social aspects of the theory. Where 'defensible space' was seen to be optimised, fear levels and perceived incidents of crime and deviancy were both lower.

The perceptual element to 'defensible space' has been highlighted (Tijerino, 1998; Ham-Rowbottom *et al.*, 1999; Cozens *et al.*, 2000a, 2000b and 2000c), and as such, this research confirms that perceptions are a crucially important aspect within this highly influential and increasingly popular theory.

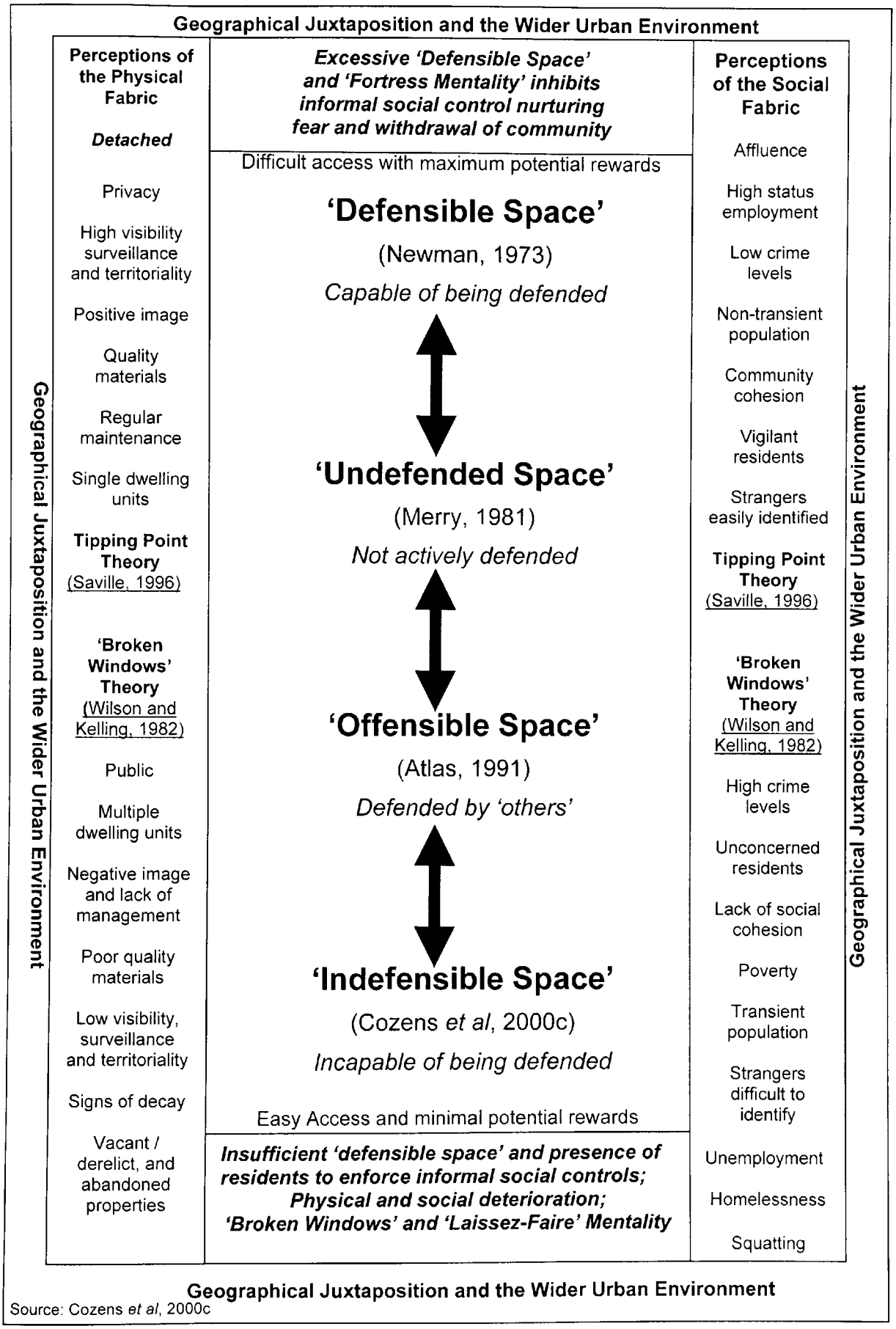
Figure 14.1 presents a 'Probabilistic Model Demonstrating a Hierarchy for the Perceptions of Defensible Space', to illustrate some of the key perceptions which can be derived from this research. This is by no means a 'definitive' model to

simplistically interpret and illustrate the process of urban decay in all residential areas. Rather it is a model which details the perception and 'image' that can permeate and define such localities. The crucial social associations related to the respective housing designs, certainly emphasises the highly complex nature of the built environment. It is clear that both physical and social dimensions are inherently interwoven within the complexities of the design-affects-crime debate.

14.1.2 Visible 'Signs of Decay' – Versions 'A' and 'B'

However, physical design *per se* only partially explains the patterns in the 'Absolute Hierarchy of Vulnerability' (see Figure 13.2.1). Crucially, the maintenance and level of upkeep of each design was a highly influential factor in determining perceived criminogenic capacity. Three of the housing designs ('Terraced Housing B', 'Semi-detached Housing B' and 'Low-rise/walk-up Flats B') deliberately contained visible 'signs of decay' to probe the influence of maintenance and levels of upkeep on the perceptions of crime and deviancy and 'defensible space'. In addition to Newman's third concept of 'image and milieu', Wilson and Kelling's 'Broken Windows' (1982) thesis is also supported by these findings. The well-maintained versions (A) of these designs were all considered to be considerably more defensible, less vulnerable to crime and deviancy and to exhibit lower levels of fear than the poorly-maintained versions (B). As the findings have demonstrated, the selected housing designs were viewed in a clearly hierarchical arrangement, and may partially reflect notions of status and class (Logan, 1978). However, this hierarchy was significantly influenced by the state of repair and upkeep of the respective designs and the socio-economic associations generated by the designs. Indeed, Franck (1985) succinctly comments that "...the designed environment is a physical manifestation of social concepts" (Franck, p157). The findings strongly suggest that 'image' is a significant variable within the design-affects crime debate and that it can significantly affect the perceived defensibility of each design. The behavioural responses and levels of proprietary concern that disrepair may encourage or discourage, is certainly an issue for future research.

Figure 14.1 A Probabilistic Model Demonstrating a Hierarchy for the Perceptions of Defensible Space



Source: Cozens *et al*, 2000c

14.1.3 MDUs and SDUs

Regarding all the individual groups and the composite perspectives, SDUs were perceived to be considerably less criminogenic and fear-inducing than MDUs. This research firmly underpins and confirms Newman's work in this regard (Newman, 1973; Newman and Franck, 1980; Newman and Franck, 1982). Significantly, the police officers regarded the high-rise designs as the most vulnerable to crime and the least defensible of the designs. All groups therefore confirm Newman's highly critical stance towards multiple entry dwellings and particularly high-rise and walk-up flats. A precautionary approach should arguably be applied as a precursor to re-designing MDUs since, as Newman (1973) noted, if the finances are not there to maintain and manage these designs, they should not be constructed. Furthermore, he made the crucial observation that those who design such developments are rarely those who cost the maintenance of those buildings (Newman, 1975, p69).

14.1.4 Terraced Housing

The well-maintained version of this housing type was considered to be relatively defensible, with low levels of potential crime, deviancy and fear of crime. In the light of the projected housing needs (DOE, 1995) and the national campaign for improved urban design (DETR, 1999), the terraced design certainly warrants serious re-consideration. The issue of bay windows (present in 'Terraced Housing A') and the increased surveillance potential they provide, suggest that a modern version of this design represents an interesting design alternative for SBD and new-build housing. Terraced housing, with double-bay windows, arranged in a perimeter block (excluding notorious rear-alleys and lanes) with front and rear gardens and perhaps, in-curtilage parking is one such example. The capability for housing relatively high-density populations in such a design further strengthens its relevance. Indeed, Bentley *et al.* (1985), have advocated the perimeter block model and a study by Pascoe (1993) found that burglars identified terraced housing as 'safer' than many cul-de-sacs. Recently, in a press release, the Housing and Planning Minister, Nick Raynsford espoused the terraced design. He stated that "some of the most sought after homes – such as Georgian terraces and Victorian terraces and squares with family gardens...have stood the test of time", demonstrating "...that the designers got it right" (DETR, 2000a). The perceptions

of the four sample groups suggest that the terraced design certainly warrants careful deliberation.

14.1.5 Socio-Economic Associations

Clear and powerful social and economic associations were made in relation to the design typologies presented, reiterating the interwoven complexities of investigating the socio-spatial environment. Higher levels and more extreme types of crime and deviancy were perceived to occur in the poorly-maintained SDUs and MDUs. Fear levels were higher and the residents were predominantly perceived to be unemployed. The well-maintained SDUs were associated with high status employed residents, low levels of fear of crime and incidents of crime and deviancy were negligible. In terms of these associations, Brown and Bentley (1993) noted that "...humans are never without physical context and that physical and social contexts are of one cloth" (Brown and Bentley, p60). Indeed, Newman (1973) was not unaware of such complexities, arguing that "...building prototypes, from row housing to high-rise, symbolise various forms of class status" (Newman, p106).

14.1.6 The Stratification of Place?

The 'Absolute Hierarchy of Vulnerability' for each individual group (see Figures 9.2.1, 10.2.1, 11.2.1, 12.2.1 and 13.2.1) reveals a clearly defined 'stratification of place' (Logan, 1978), where notions of status and class are partially influencing perceptions of crime, fear of crime and safety. Lupton (1999) argues that cultural identities may require the concept of 'otherness' with which to compare ourselves. She argues "...as part of a strategy of dealing with the risk and uncertainty of crime, each person develops a 'mental map' of places, defining some as likely to be 'safe' and others as 'risky'. 'This mental map' does not simply rely on geographical aspects of a space or place; but also draws on ideas and assumptions about social relations and the kinds of people who inhabit or pass through these spaces and places at specific times of day and night" (Lupton, p13). The findings from the qualitative analysis lend further support for the existence of the 'stratification of place' (Logan, 1978).

Moreover, since behaviour can be influenced by environmental indicators and perceptions (Wilson and Kelling, 1982; McGahan, 1984), this 'stratification of

place' may act as an agent of social control. Indeed, housing allocation policies and the mechanics of the housing market would seem to reinforce this point. From a social constructionist perspective, Franck (1985) has argued that "buildings and other designed spaces are intended to support society's expectations of what activities should take place where, who should pursue those activities, and how they should relate to one another" (Franck, p157). Furthermore, the imagery of certain housing typologies presented by the media, and particularly in police 'soaps' on television, do little to redress these powerful cultural associations. Perhaps housing design and maintenance levels act as microscopic indicators for notions of containment and levels of social order/disorder. Indeed, Walinsky (1964) suggests that one reason for maintaining the visual stigma of public housing projects in America was that the 'working' and middle classes did not look favourably upon members of society who required government assistance. Truly mixed communities may go someway to avoiding such stigmatisation, although such sentiments are arguably utopian in the status-conscious and materialistic contemporary urban society. .

14.1.7 A Misunderstanding of Newman's Ideas?

It has been argued that the gated community has its origins in the 'Joka-Machi', the Japanese 'castle town' of the mid-sixteenth to mid-nineteenth centuries (Stilgoe, 1994). The modern cul-de-sac is also associated with Newman. Both of these 'private' configurations have come to represent the culmination of Newman's ideas. Hillier and Hu (2000) provide one example of this perspective "defensible space with its 'strangers equal danger' mentality and its reliance on curtain-twitching residents in cul-de-sacs" (Hillier and Hu, p1). It is argued here, that this represents a misunderstanding of Newman's work. Firstly, Newman (1973) claimed 'defensible space' to be "...a technique applicable to low-density row-house groupings as well as to developments composed of high-rise apartment buildings" (Newman, p9). It has been applied to a range of residential environments and relating the cul-de-sac design, Newman (1973) commented that "...the decision to make the private dwelling inward-looking has removed much of the opportunities for natural surveillance" (Newman, p150). He was also mindful of the problems that can arise with regard to rear access lanes.

Newman also commented that for high-rise public housing projects "...too many, including strangers and guests of neighbours, wander through ... unchecked and unquestioned" (Newman, p44). However, on a broadly general note, he opined that row-houses were considered 'safe' by residents because "...of the presence of many people engaged in like activities, thus providing a number of possible witnesses who might choose to come to the aid of the victim" (Newman, p109).

Finally, Newman (1975) supported both the presence of users and the existence of through movement of traffic and footfall; "traditional residential streets are safe because they have pedestrian and vehicular movement along them and occasionally, police patrols; and most importantly, they are supervised by residents in bordering buildings" (Newman, p59). This crucial intervisibility is vital to 'defensible space'; "to feel continually that one is under observation by other residents ... can have a pronounced effect in securing the environment for peaceful activities" (Newman, p78).

Research by Hillier and Hu (2000) claims that "on the whole, linear integrated spaces with some through movement and strong intervisibility of good numbers of entrances (highly 'constituted') are the safest spaces" (Hillier and Hu, p4). The similarities are clear and it is therefore argued that Newman's ideas are highly pertinent today, and that his findings have been misinterpreted.

14.2 Policy Implications

14.2.1 SBD and CPTED Strategies

This research suggests that both SBD and CPTED might usefully consider including subjective aspects of the fear of crime in their mapping systems. This can provide the 'subjective' insights to strengthen the incomplete perspective that is provided by the 'objective' utility of official, recorded crime data. This approach is particularly crucial in consideration of the mismatch that can often occur between the extent and location of 'objectively' reported crime and the largely unknown levels and whereabouts of the more 'subjective' measurement and monitoring of the fear of crime (Brantingham and Brantingham, 1977; Vrij and Winkel, 1991). The strengths of 'defensible space', SBD and CPTED are well-

known, and understanding their weaknesses can consolidate and strengthen this approach (Cozens *et al.*, 2000d and 2000e).

In a recent academic debate (New Scotland Yard, 2000), the positive findings reported in several studies of SBD, were presented and discussed (Armitage, 1999; Brown, 1999; Pascoe, 1999) and it was accepted that SBD can be effective in reducing criminality (for a review, see Cozens and Plimmer, 2000). Significantly, however, the research objective of understanding why this was the case, was highlighted. It is argued here that this may partially be explained by understanding the perception of 'defensible space' within SBD developments. The relatively informal design training of architectural liaison officers (Steventon, 1996) might also consider the perceptual elements to 'defensible space' when evaluating and awarding SBD certification. The continuous assessment of such developments is advisable in consideration of the influence of maintenance and upkeep upon perception. Novelty and 'newness' may well contribute to feelings of satisfaction and safety. However, the plight of many council estates (Social Exclusion Unit, 1998) is certainly testament to the fact that environmental and social conditions can rapidly change and stigmatisation can take place.

The recent and continuing debate concerning linear housing layouts and cul-de-sacs might consider the predominantly positive perceptions of the terraced housing design presented in this work. Indeed, Steventon (1996) has noted that this design has been excluded from 'defensible space' models, even though "the arrangement of buildings offers rear security, good surveillance of public areas, and opportunities for social interaction" (Steventon, p243).

14.2.2 New-Build Housing

In terms of criminogenic capacity, the opportunity to evaluate new-build housing projects has only recently been suggested (Cozens *et al.*, 1999a, 1999b). The clearly defined trends revealed in the 'Absolute Hierarchy of Vulnerability' (see Figure 13.2.1) suggest that 'Semi-detached Housing A' is the most preferred design, with the detached properties marginally less so. However, although such designs are appropriate where land values are not at a premium, the terraced design does warrant some consideration, particularly for high-density urban housing developments (as discussed in section 14.1.4). The opportunity to

investigate the criminogenic capacity of some of the housing designs and street configurations adopted by new-build housing designers nonetheless remains an interesting and potentially useful framework for future research.

14.2.3 Estate Management

The influence of blighted and vacant or abandoned properties upon criminality has been widely discussed in America (Wilson and Kelling, 1982; Spelman, 1993; Ross and Mirowsky, 1999; Greenberg, 1999; Kraut, 1999). Furthermore, Greenberg (1999) argues that community mistrust of the authorities can be fostered as result of such neglect.

The necessity of bringing such properties into use is clear, and Kraut (1999) claims owners "cannot be allowed to neglect their property so that it deteriorates to the point where it generates crime and health hazards" (Kraut, p1177). Kelling and Coles (1996) suggest that the rapid and efficient remediation of blighted areas and regular maintenance of all property (especially public housing) can increase proprietary concern, territoriality and reduce crime.

These issues are of critical relevance to the Crime and Disorder Act 1998 which imposes a general duty on local authorities to take crime and disorder into account in all aspects of decision-making. According to White (2000), "councils are now including the potential for, or fear of, crime and disorder as a reason for refusing permission for late night uses" (White, p20). It is perhaps time for this remit to be extended beyond the boundaries of merely refusing planning permission to imposing demands to repair and renovate derelict, vacant or abandoned buildings and provide a duty of care to maintain and manage the residential, commercial and industrial environment quickly and efficiently. This is relevant, therefore, to urban regeneration policy in general and, more specifically, to those responsible for residential valuation and investment. If certain design features become increasingly associated as being either 'safe' or 'unsafe', the valuation of such properties may be affected. Furthermore, properties that are contiguous or adjacent to derelict or vacant buildings may be assigned negative imagery. In terms of aesthetics and the criminogenic associations that are attributed to such properties, the valuation process may be influenced.

This research clearly concurs with these American studies, as demonstrated by the clear and significant influence of visible 'signs of decay' upon the perceived criminogenic capacity and 'defensible space' qualities of the respective designs. (see section 14.1.2).

14.2.4 British and European Standards (BS8220 and CEN/TC325)

The reliance solely upon the 'objectively' measurable aspects of 'defensible space' SBD and CPTED, by utilising official recorded crime statistics, may well deprive these ideas of the vital subjective and perceptual perspective that 'defensible space' clearly possesses. The findings from this exploratory research suggest that fear of crime, the perceptions of 'defensible space' and crime and deviancy are all crucial considerations. Furthermore, the rapid and efficient maintenance and upkeep of housing estates, particularly the renovation of vacant and abandoned properties, are both of integral relevance to the development of British and European standards and to the design-affects-crime debate generally.

14.2.5 Mainstream Criminology

In Britain, Ekblom and Tilley (2000) have recently noted that "...the cultural divide between offender-oriented explanations and interventions on the one hand, and the situational approach on the other have persisted" (Ekblom and Tilley, p378). This social-physical dichotomy has arguably hindered the development of understanding and Ekblom and Tilley opine that it is time that Situational Crime Prevention (SCP) and its variant forms (i.e. 'defensible space', CPTED and Natural Crime Prevention) were integrated with offender-oriented criminology and crime prevention. They observe that "...one cannot have crimes without offenders" (Ekblom and Tilley, p376), and by the same token, all crime is necessarily located temporally and spatially.

Koskela and Pain (2000) argue that criminology is engaged in "the imperative of feeding crime prevention policy with useful information" (Koskela and Pain, p271). It is suggested here, that this research, as an original contribution to knowledge, does provide some 'useful information'. In consideration of the polygenetic nature of crime, this study can contribute to our understanding of the design-specific perceptions of 'defensible space'; a crucial building block to SCP (also referred to as 'environmental criminology'), SBD and CPTED.

Interestingly, the burglars' possessed relatively high levels of perceived burglary in the otherwise 'safe' and defensible detached (A and B) and semi-detached designs (A). Proximity to these 'targets' and their excited responses in the interview suggests that such designs *may* be targeted to a greater degree if they were within the cognitive mental maps and offending regions of these offenders. Indeed, in America, Blakely and Snyder (1999) observe how some suburban areas have been made more accessible and therefore potentially more vulnerable, as a result of improved road networks and a widening of offenders spatial awareness.

14.2.6 The Aims of the Research

It is argued here, that all seven aims identified in Chapter 1 have been addressed. The criminogenic capacity of British housing designs and the perceptions of 'defensible space' have been evaluated. The research has provided insights into the perceptions of key user groups relating to SBD, CPTED and the design-affects-crime debate. The socio-economic associations relating to each of the selected designs have been probed and further areas of research have been identified. Policy insights for new-build and SBD housing have been suggested, in addition to providing advice for consideration by police architectural liaison officers. It is proposed that this exploratory, design-specific investigation into crime, design and 'defensible space' of characteristic British housing, therefore, constitutes an original contribution to knowledge.

14.3 Recommendations for Further Research

Several interesting avenues for further research are suggested by this research. Firstly, the perceptions of other user groups, such as the elderly and teenagers and a gendered analysis may provide further insights into 'defensible space' perceptions and the criminogenic capacity of housing designs.

A study of each design type, in all their variant forms is another suggested way forward to explore the finer, more detailed design features that may or may not influence perceived levels of fear, crime and deviancy and 'defensible space'. For example, the various types of terraced housing warrant investigation in order to identify the specific type which is considered to be the 'safest' and most preferred.

Investigating the retail, commercial, industrial, recreational and transport environments represents an intriguing focus for future research, particularly since the mismatch of recorded crime and the location of fear of crime seems likely to persist.

Recent research has investigated the effectiveness of SBD (Armitage, 1999; Brown, 1999 and Pascoe, 1999) however, a design-specific approach may prove useful.

Fear of crime has not been attributed the attention it deserves (Harries, 2000) and the systematic and ongoing mapping of the location of fear of crime can contribute to our understanding of crime by presenting the subjective insights to run side-by-side with the 'objective' utilisation of official reported crime data.

Crucially, environmental criminology is based on the assumption that offenders are rational and they are influenced by environmental cues. Research concerning how users' behaviour is influenced by such cues is also an interesting area.

14.4 Limitations

This area of research is both innovative and exploratory, and as such, there was no available methodological framework which could be effectively utilised to measure the criminogenic capacity of characteristic British housing designs. It is acknowledged that the photographic images presented, as the environmental stimuli, are mere representations of urban residential housing types, and that research that utilises the actual setting may produce more meaningful results. However, cost, time and practical considerations necessitated this approach, which is widely used and appropriate for research purposes (Groat, 1982; Purcell and Nasar, 1992; Hubbard, 1996; Scott and Canter, 1997).

It is acknowledged that the respondents who were interviewed, represent a small fraction of their respective sample groups, and that it would be erroneous to suggest that a representative sample had been obtained. However, the insights gained from the patterns and trends that are evident within the findings,

demonstrate that meaningful conclusions can be drawn from these contrasting user groups.

14.5 Long-term Implications

This research suggests that the design-affects-crime debate should consider the continued maintenance and management of housing as being as crucial as the initial design itself. Failure to consider such dimensions may result in the development of estates that are patently 'indefensible' as a consequence of their abandonment by residents and, of course, the collapse of local employment opportunities, various community services and possibly, the withdrawal or reduction in police activities in the area. Highly stigmatised 'no-go' areas may ensue unless local authorities and central government commit to a continued and sustained programme of support. More controversial perhaps, is the cheaper alternative to this intervention – the creation of gated and privatised communities where the problems remain firmly outside the perimeter fences. The crucial role and freedom of movement and activity of the citizen within the city helps to maintain the diversity, vibrancy and complexity of the 'civitas'. It is necessary therefore, to create *and* maintain urban environments that encourage sophisticated 'civil' behaviour.

14.6 Summary

Newman's theory of 'Defensible Space' (1973) is clearly supported both in the qualitative and quantitative findings. MDUs are clearly considered to be highly criminogenic and fear inducing, while at the same time perceived to possess significantly lower levels of defensibility than SDUs. In terms of the maintenance and appearance of each design, those with visible 'signs of decay' were regarded as being notably more criminogenic, fear inducing and, significantly, less defensible than the well-maintained versions of the same design. Indeed, the existence of an area dominated by vacant and derelict properties, of whatever design typology, is certainly 'indefensible', in more ways than one. Thresholds may exist where 'defensible space' becomes less effective, and the 'image' of housing design is a significant factor in this respect.

The powerful socio-economic associations attached to certain designs clearly influenced the perceptions of burglars, planners, police officers and young adults. These may well influence the behavioural patterns of burglars and police and more importantly perhaps, those of residents, as regular users. The disintegration of informal social controls encouraged by a poorly maintained physical environment (Wilson and Kelling, 1982) may well mean that 'defensible space' is downgraded to become 'undefended', 'offensible' or even 'indefensible' space (Cozens *et al.*, 2000b, 2000c).

There are obvious policy implications for planners, property managers and housing officials, to adequately and rapidly maintain the physical fabric of residential areas, and to use caution in their allocatory procedures, particularly with reference to high-rise and low-rise properties. Local councils may well be considering crime and fear of crime in their decision-making (White, 2000). However, this research concurs with Kraut (1999) and recommends that derelict and vacant properties should be repaired and renovated rapidly. In terms of the new-build housing projections, the requirement of high-density dwellings may well be most appropriately met by a consideration for a version of the terraced design, which was favourably evaluated by all the sample groups.

"By Design" a recent Government design guide (DETR, 2000b) clearly restates the commitment to improve urban design. A working party, set up to "promote a new multi-disciplinary approach to training in design" by "raising the skills base of planners, architects and engineers in the area of urban design" (DETR, 2000c), has also been established. The findings from this research are certainly pertinent to these developments.

In crime prevention terms, the crucial importance of responding operationally to both the objective ***and*** the subjective realities of crime has been highlighted. The continuing refinement of mental and perceptual mapping may make a vital contribution to this process.

In conclusion, this research has highlighted crucial aspects of the design-affects-crime debate and provided an innovative and exploratory, design-specific, perceptual perspective, which clearly indicates that Newman's theory, and therefore contemporary CPTED and SBD measures, are appropriate crime

prevention strategies. Koskela and Pain (200) have recently observed that "space is not viewed in a social vacuum, and indeed, it is meaningless to consider the social and physical properties of space as dichotomous" (Koskela and Pain, p275). This research concurs with these sentiments. The highly complex socio-spatial dynamics of the built environment can only be better understood by analysing both the objective ***and*** the subjective 'reality' of both crime and the fear of crime.

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Appendix One.

Images of Characteristic British Housing Designs.

FOLD=OUT

Appendix 1 - Images of Characteristic British Housing Designs

High-rise Flats A

Low-rise/walk-up flats A

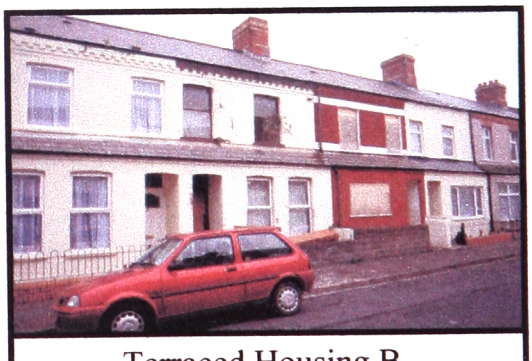
Terraced Housing A

High-rise Flats B

Semi-detached Housing B

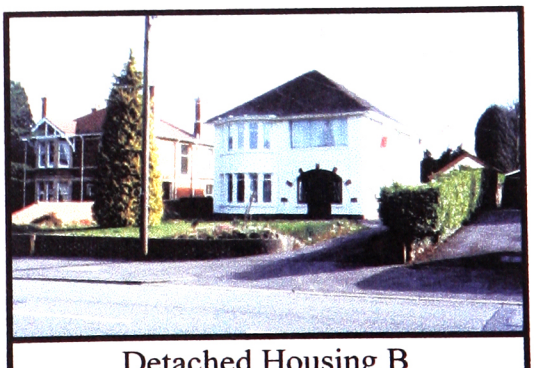
Semi-detached Housing A

Detached Housing A



Terraced Housing B

Low-rise/walk-up flats B



Detached Housing B

Appendix Two.

Pilot Study 1.

PILOT. 1

JACQUI

HIGHLY LIKELY / LIKELY

the major reason for so [illegible]

Questionnaire Pilot 1.0 (10.9.98)

You will be shown a series of 18 slides. Would you answer the following questions for each slide.

What do you think is the possibility of burglary taking place in this area ? Also please state your reasons.

Slide No.	Very High	High	Medium	Low	Very Low	No Possibility	Reasons
	5	4	3	2	1	0	
1	☐	☐	☑	☐	☐	☐	—
2	☐	☐	☐	☑	☐	☐	alarms double glazing + neighbours.
3	☐	☑	☐	☐	☐	☐	similar to place of recent victimised lulled sense of security.
4	☐	☐	☑	☐	☐	☐	Dbl glazing.
5	☐	☐	☑	☐	☐	☐	woods protected near or assist.
6	☐	☐	☐	☑	☐	☐	front view
7	☐	☐	☐	☑	☐	☐	BUSY STREET. Cars present.
8	☐	☑	☐	☐	☐	☐	Units exposed. Lots of windows.
9	☐	☐	☐	☑	☐	☐	ALARM D/G SGHTS. to clustered. debonnaire — P.C. may target
10	☐	☐	☐	☑	☐	☐	Street Known - busy.
11	☐	☐	☐	☑	☐	☐	ACCESS LOW.
12	☑	☐	☐	☐	☐	☐	entrance, many windows intra-access attics.
13	☑	☐	☐	☐	☐	☐	"
14	☐	☐	☑	☐	☐	☐	multiple access opportunist may be attracted
15	☑	☐	☐	☐	☐	☐	multiple-occupancy high-density.
16	☐	☐	☑	☐	☐	☐	mixing of dwellings unsure of effect.
17	☐	☐	☐	☑	☐	☐	perhaps had crime once
18	☐	☐	☐	☑	☐	☐	windows secure connect to police stations.

54. TOTAL

Comment

- near view may alter opinion.
- different views of particular area - one view is limiting.
- confusion - type of crime could be stipulated ie opportunistic / professional.
- photos perhaps caused generalisations - HMO / Sgl'n
- allow for personal experience / knowledge of area
- qualitative information perhaps required.
  - m/f, Gender, Age.
  - Current dwelling
  - + loss prospects 3/4 views of them.

Appendix Three.

Pilot Study 2.

① MARTIN O'FARRELL.

A Matrix for Coupled Comparisons of Residential Property - Fear of Street Robbery, Attack and Burglary

																		Totals	%
	1	3	4	5	6	7	8	1	10	1	12	13	14	15	1	1	1	6	0.0
		3	4	5	6	7	8	2	10	11	12	13	14	15	2	17	2	3	0.0
			4	5	6	7	8	3	10	11	12	13	14	15	3	3	3	6	0.0
				4	4	4	8	4	10	4	12	13	4	15	4	4	4	12	0.0
					5	5	8	5	5	5	12	13	14	15	5	5	5	11	0.0
						7	8	6	10	6	12	13	6	15	6	6	6	9	0.0
							8	7	7	7	12	13	14	15	7	7	7	10	0.0
								8	8	8	12	13	8	15	8	8	8	14	0.0
									10	9	12	13	14	15	16	17	9	2	0.0
										10	12	13	10	15	10	10	10	11	0.0
											12	13	14	15	16	17	11	3	0.0
												13	12	12	12	12	12	16	0.0
													13	13	13	13	13	17	0.0
														14	14	17	14	10	0.0
															15	17	15	13	0.0
																17	16	3	0.0
																	17	7	0.0
																		0	0.0

Compare two dwellings. In which would you feel most fearful of a crime taking place (street robbery, attack or burglary)

135 total comparisons.

0
must
total
135

Fearpilot2.XLS

Pilot 2

Appendix Four.

Pilot Study 3.

1) (PILOT 3)

You will be shown two photographic images. Please look at the images and complete this short questionaire to the best of your ability. Tick one box to indicate gender and age and to respond yes or no.
Be as descriptive as you can for the last four 'open-ended' questions.

Gender ☐ Male ☑ Female

Age ☐ 18-25 ☐ 26-35 ☐ 36-45 ☑ 46-55 ☐ 56+

	Image 1.	Image 2.
Would you like to live here?	☐ Yes ☑ No	☐ Yes ☑ No
Do you consider the residents to be proud inhabitants who maintain their property?	☑ Yes ☐ No	☐ Yes ☑ No
Do you feel that the boundaries of the properties are clearly visible?	☑ Yes ☐ No	☑ Yes ☐ No
Would you feel safe walking in this environment?	☑ Yes ☐ No	☑ Yes ☐ No
Would you expect residents to intervene if you were attacked in this environment?	☐ Yes ☐ No	☑ Yes ☐ No
Do you think these properties are privately owned or rented?	☑ Privately owned ☐ Rented	☐ Privately owned ☑ Rented

What socially acceptable activities would you expect to occur in the environment shown in Image 1?
Car washing, gardening, DIY, entertaining, dog walking

What socially unacceptable activities would you expect to occur in the environment shown in Image 1?
Drug-taking, ? child abduction, pass ? murder, activities internal to house - drugs, abuse or various types, in relation

What socially acceptable activities would you expect to occur in the environment shown in Image 2?
ENTERTAINING/ ? DIY
SOCIALISING

What socially unacceptable activities would you expect to occur in the environment shown in Image 2?
Mildly anti-social noise, drugs + drink

Appendix Five.

The Adopted Methodology - The Questionnaire Booklet

Paul Cozens
Research Project
University of Glamorgan

Investigating Images of British Housing.

Questionnaire Booklet

(5) completed (10)

Questionnaire 7.0 Respondent Data

Please complete the questionnaire below. For each category tick the appropriate box/boxes or enter the data required as requested.

Gender

- [x] Male
- [ ] Female

Ethnicity

- [x] White
- [ ] Non-white

Age

- [ ] Under 18
- [ ] 18-25
- [ ] 26-33
- [ ] 34-41
- [ ] 42-49
- [x] 50-57
- [ ] 58-65
- [ ] Over 65

Marital Status

- [ ] Single
- [x] Married
- [ ] Divorced
- [ ] Widowed

Employment Status

Please state your current occupation below

ARCHITECT.

Educational Background
Please tick most recent

- [ ] Secondary school
- [ ] Sixth form / College
- [ ] University
- [x] Professional qualifications

Annual Income

- [ ] £3,000-7,500
- [ ] £7,501-10,000
- [ ] £10,001-15,000
- [ ] £15,001-20,000
- [ ] £20,001-30,000
- [x] Over £30,000

Residential Background

1. Please state in years approximately how long you have lived in any of the following housing types:

Terraced	6
Semi-detached	
Detached	40
Deck-Access Flats	
Low-Rise Flats (3-6 floors)	
High-Rise Flats (+7 floors)	
Houses Converted to Flats	4
Bungalow	

2. Please state in years, approximately how long you have lived the following housing types:

Privately owned (outright)	
Privately owned (mortgage)	46
Privately-Rented Accommodation	4
Council-Rented Accomodation	

3.Please indicate whether you live alone, in shared accommodation or with your family / children

- [ ] Live alone
- [ ] Live in shared accommodation
- [x] Living with family / children

Crime Experience

1. Have you personally been the victim of any crime in 1999? ☐ Yes ☑ No

2. Have you personally been the victim of any crime before 1999? ☑ Yes ☐ No

3. Do you personally know anyone who has been the victim of crime in 1999? ☑ Yes ☐ No

4. Do you personally know anyone who has been the victim of crime before 1999? ☑ Yes ☐ No

This is an enquiry into your perceptions of crime relating to a selection of urban residential housing designs, typical of the twentieth century British city.
You will be shown a series of 10 images and asked to complete a questionnaire for each one.
Please write clearly in BLOCK CAPTIALS. There are no right or wrong answers, it is YOUR opinions that are required. All answers are treated in a strictly confidential manner.

It is your immediate responses that are required, so please answer the questions promptly and within the time allowed.

IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1.

Part 1. Please answer each question in 30 seconds using brief comments.

What socially acceptable, legal activities do you think you might see or hear in this street?	TALKING, DRIVING.
What socially unacceptable, illegal activities do you think you might see or hear in this street?	VANDALISM, DROPPING LITTER
What emotions or feelings do you think you might have walking in this street alone?	UNEASE.
Please state any changes that you think might improve the image of this area	RENDERING OR PAINTING OF EXPOSED CONCRETE/ BLOCKWORK
Please state if you think that the residents here are employed or unemployed. If employed, please list possible occupations.	EMPLOYED. RETAIL, NURSING, SEMI-SKILLED. TRADES.

Part 2. Please state the first answer that comes to mind.

	Yes	No		Yes	No
Do you think that the residents are proud of their property?	☐	☑	Would you expect incidents of graffitti, vandalism or dereliction to occur here?	☑	☐
Is it clear to you where the property boundaries lie?	☐	☑	Would you expect noisy and troublesome teenagers here?	☑	☐
Do you think there is a neighbourhood watch scheme here?	☐	☑	Do you think these houses are privately owned by the residents?	☐	☑
Do you think residents can recognise strangers here?	☐	☑	Do you think these houses are rented by the residents?	☑	☐
Would you feel noticed by residents walking here?	☑	☐	Would you like to live here?	☐	☑
Does this street provide opportunities to hide for those who might behave in an unsocial or deviant manner?	☑	☐	If a crime was committed in this street and was noticed by residents, do you think they would be proactive and assist in anyway? (i.e phone police, intervene etc)	☑	☐
Would you fear for your personal safety here?	☐	☑	Would you prefer to avoid walking along this street given the choice?	☑	☐
Would you expect burglary to be common in this street?	☑	☐	Do you think that the police patrol this area on a regular basis?	☑	☐
Would CCTV reduce unsocial or illegal behaviour here?	☑	☐	Do you think you would feel safe walking in this street?	☑	☐

IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1. IMAGE 1.

Part 1. Please answer each question in 30 seconds using brief comments.

What socially acceptable, legal activities do you think you might see or hear in this street?	WASHING CARS, PAINTING HOUSES, TALKING.
What socially unacceptable, illegal activities do you think you might see or hear in this street?	TEENAGERS USING FOUL LANGUAGE. DROPPING OF LITTER.
What emotions or feelings do you think you might have walking in this street alone?	NEUTRAL.
Please state any changes that you think might improve the image of this area	PLANTING IN FRONT GARDENS. IMPROVE ROAD SURFACE, CLEAR UP LITTER.
Please state if you think that the residents here are employed or unemployed. If employed, please list possible occupations.	EMPLOYED. TRADES, OFFICE WORKERS, RETAIL.

Part 2. Please state the first answer that comes to mind.

	Yes	No
Do you think that the residents are proud of their property?	☑	☐
Is it clear to you where the property boundaries lie?	☑	☐
Do you think there is a neighbourhood watch scheme here?	☐	☑
Do you think residents can recognise strangers here?	☑	☐
Would you feel noticed by residents walking here?	☑	☐
Does this street provide opportunities to hide for those who might behave in an unsocial or deviant manner?	☐	☑
Would you fear for your personal safety here?	☐	☑
Would you expect burglary to be common in this street?	☑	☐
Would CCTV reduce unsocial or illegal behaviour here?	☑	☐

	Yes	No
Would you expect incidents of graffitti, vandalism or dereliction to occur here?	☑	☐
Would you expect noisy and troublesome teenagers here?	☑	☐
Do you think these houses are privately owned by the residents?	☑	☐
Do you think these houses are rented by the residents?	☐	☑
Would you like to live here?	☐	☑
If a crime was committed in this street and was noticed by residents, do you think they would be proactive and assist in anyway? (i.e phone police, intervene etc)	☑	☐
Would you prefer to avoid walking along this street given the choice?	☐	☑
Do you think that the police patrol this area on a regular basis?	☑	☐
Do you think you would feel safe walking in this street?	☑	☐

Part 1. Please answer each question in 30 seconds using brief comments.

What socially acceptable, legal activities do you think you might see or hear in this street?	WASHING CARS, MAINTAINING HOUSES,
What socially unacceptable, illegal activities do you think you might see or hear in this street?	DROPPING LITTER, DOGS FOULING STREET.
What emotions or feelings do you think you might have walking in this street alone?	UNEASE.
Please state any changes that you think might improve the image of this area	MAINTENANCE/REPAIR OF UNOCCUPIED HOUSE & GARDEN.
Please state if you think that the residents here are employed or unemployed. If employed, please list possible occupations.	EMPLOYED. OFFICE WORKERS, SHOP ASSISTANTS, TRADES

Part 2. Please state the first answer that comes to mind.

	Yes	No
Do you think that the residents are proud of their property?	☑	☐
Is it clear to you where the property boundaries lie?	☑	☐
Do you think there is a neighbourhood watch scheme here?	☐	☑
Do you think residents can recognise strangers here?	☐	☑
Would you feel noticed by residents walking here?	☐	☑
Does this street provide opportunities to hide for those who might behave in an unsocial or deviant manner?	☐	☑
Would you fear for your personal safety here?	☐	☑
Would you expect burglary to be common in this street?	☑	☐
Would CCTV reduce unsocial or illegal behaviour here?	☑	☐

	Yes	No
Would you expect incidents of graffitti, vandalism or dereliction to occur here?	☑	☐
Would you expect noisy and troublesome teenagers here?	☑	☐
Do you think these houses are privately owned by the residents?	☑	☐
Do you think these houses are rented by the residents?	☐	☑
Would you like to live here?	☐	☑
If a crime was committed in this street and was noticed by residents, do you think they would be proactive and assist in anyway? (i.e phone police, intervene etc)	☑	☐
Would you prefer to avoid walking along this street given the choice?	☑	☐
Do you think that the police patrol this area on a regular basis?	☑	☐
Do you think you would feel safe walking in this street?	☑	☐

Part 1. Please answer each question in 30 seconds using brief comments.

What socially acceptable, legal activities do you think you might see or hear in this street?	GARDENING, WASHING CARS
What socially unacceptable, illegal activities do you think you might see or hear in this street?	DROPPING LITTER, DOGS FOULING.
What emotions or feelings do you think you might have walking in this street alone?	ENVY!
Please state any changes that you think might improve the image of this area	BETTER DESIGNED LAMP POSTS.
Please state if you think that the residents here are employed or unemployed. If employed, please list possible occupations.	EMPLOYED. BUSINESS PEOPLE, DOCTORS, SOLICITORS. ACCOUNTANTS.

Part 2. Please state the first answer that comes to mind.

	Yes	No		Yes	No
Do you think that the residents are proud of their property?	☑	☐	Would you expect incidents of graffitti, vandalism or dereliction to occur here?	☐	☑
Is it clear to you where the property boundaries lie?	☑	☐	Would you expect noisy and troublesome teenagers here?	☐	☑
Do you think there is a neighbourhood watch scheme here?	☑	☐	Do you think these houses are privately owned by the residents?	☑	☐
Do you think residents can recognise strangers here?	☐	☑	Do you think these houses are rented by the residents?	☐	☑
Would you feel noticed by residents walking here?	☐	☑	Would you like to live here?	☑	☐
Does this street provide opportunities to hide for those who might behave in an unsocial or deviant manner?	☑	☐	If a crime was committed in this street and was noticed by residents, do you think they would be proactive and assist in anyway? (i.e phone police, intervene etc)	☐	☑
Would you fear for your personal safety here?	☐	☑	Would you prefer to avoid walking along this street given the choice?	☐	☑
Would you expect burglary to be common in this street?	☐	☑	Do you think that the police patrol this area on a regular basis?	☐	☑
Would CCTV reduce unsocial or illegal behaviour here?	☐	☑	Do you think you would feel safe walking in this street?	☑	☐

IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5.

Part 1. Please answer each question in 30 seconds using brief comments.

What socially acceptable, legal activities do you think you might see or hear in this street?	WASHING CARS, HANGING OUT WASHING.
What socially unacceptable, illegal activities do you think you might see or hear in this street?	GRAFFITI, VANDALISM, DROPPING LITTER.
What emotions or feelings do you think you might have walking in this street alone?	UNEASE
Please state any changes that you think might improve the image of this area	REMOVAL OF GRAFFITI, PLANTING. (TREES, SHRUBS ETC). CLEANING OF EFFLORESCENCE ON BRICKWORK.
Please state if you think that the residents here are employed or unemployed. If employed, please list possible occupations.	UNEMPLOYED. (MAINLY).

Part 2. Please state the first answer that comes to mind.

	Yes	No		Yes	No
Do you think that the residents are proud of their property?	☐	☑	Would you expect incidents of graffitti, vandalism or dereliction to occur here?	☑	☐
Is it clear to you where the property boundaries lie?	☐	☑	Would you expect noisy and troublesome teenagers here?	☑	☐
Do you think there is a neighbourhood watch scheme here?	☐	☑	Do you think these houses are privately owned by the residents?	☐	☑
Do you think residents can recognise strangers here?	☐	☑	Do you think these houses are rented by the residents?	☑	☐
Would you feel noticed by residents walking here?	☑	☐	Would you like to live here?	☐	☑
Does this street provide opportunities to hide for those who might behave in an unsocial or deviant manner?	☐	☑	If a crime was committed in this street and was noticed by residents, do you think they would be proactive and assist in anyway? (i.e phone police, intervene etc)	☑	☐
Would you fear for your personal safety here?	☑	☐	Would you prefer to avoid walking along this street given the choice?	☑	☐
Would you expect burglary to be common in this street?	☑	☐	Do you think that the police patrol this area on a regular basis?	☑	☐
Would CCTV reduce unsocial or illegal behaviour here?	☑	☐	Do you think you would feel safe walking in this street?	☐	☑

IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5. IMAGE 5.

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IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6.

Part 1. Please answer each question in 30 seconds using brief comments.

What socially acceptable, legal activities do you think you might see or hear in this street?	WASHING CARS, WATERING PLANTS ON BALCONIES.
What socially unacceptable, illegal activities do you think you might see or hear in this street?	DOGS FOULING.
What emotions or feelings do you think you might have walking in this street alone?	NEUTRAL.
Please state any changes that you think might improve the image of this area	MORE INTERESTING HARD SURFACES (ROADS, FOOTPATHS)
Please state if you think that the residents here are employed or unemployed. If employed, please list possible occupations.	EMPLOYED. MIDDLE MANAGEMENT, FOREMEN.

Part 2. Please state the first answer that comes to mind.

	Yes	No		Yes	No
Do you think that the residents are proud of their property?	☑	☐	Would you expect incidents of graffitti, vandalism or dereliction to occur here?	☐	☑
Is it clear to you where the property boundaries lie?	☐	☑	Would you expect noisy and troublesome teenagers here?	☐	☑
Do you think there is a neighbourhood watch scheme here?	☑	☐	Do you think these houses are privately owned by the residents?	☐	☑
Do you think residents can recognise strangers here?	☑	☐	Do you think these houses are rented by the residents?	☑	☐
Would you feel noticed by residents walking here?	☑	☐	Would you like to live here?	☐	☑
Does this street provide opportunities to hide for those who might behave in an unsocial or deviant manner?	☐	☑	If a crime was committed in this street and was noticed by residents, do you think they would be proactive and assist in anyway? (i.e phone police, intervene etc)	☑	☐
Would you fear for your personal safety here?	☐	☑	Would you prefer to avoid walking along this street given the choice?	☐	☑
Would you expect burglary to be common in this street?	☐	☑	Do you think that the police patrol this area on a regular basis?	☐	☑
Would CCTV reduce unsocial or illegal behaviour here?	☐	☑	Do you think you would feel safe walking in this street?	☑	☐

IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6. IMAGE 6.

IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7.

Part 1. Please answer each question in 30 seconds using brief comments.

What socially acceptable, legal activities do you think you might see or hear in this street?	WASHING CARS, CHILDREN PLAYING.
What socially unacceptable, illegal activities do you think you might see or hear in this street?	DROPPING LITTER, DOGS FOULING.
What emotions or feelings do you think you might have walking in this street alone?	NEUTRAL.
Please state any changes that you think might improve the image of this area	MORE COLOUR ON BUILDINGS.
Please state if you think that the residents here are employed or unemployed. If employed, please list possible occupations.	EMPLOYED. RETAIL, FACTORY, OFFICE, MANUAL.

Part 2. Please state the first answer that comes to mind.

	Yes	No
Do you think that the residents are proud of their property?	☑	☐
Is it clear to you where the property boundaries lie?	☐	☑
Do you think there is a neighbourhood watch scheme here?	☐	☑
Do you think residents can recognise strangers here?	☐	☑
Would you feel noticed by residents walking here?	☐	☑
Does this street provide opportunities to hide for those who might behave in an unsocial or deviant manner?	☑	☐
Would you fear for your personal safety here?	☐	☑
Would you expect burglary to be common in this street?	☐	☑
Would CCTV reduce unsocial or illegal behaviour here?	☐	☑

	Yes	No
Would you expect incidents of graffitti, vandalism or dereliction to occur here?	☐	☑
Would you expect noisy and troublesome teenagers here?	☑	☐
Do you think these houses are privately owned by the residents?	☐	☑
Do you think these houses are rented by the residents?	☑	☐
Would you like to live here?	☐	☑
If a crime was committed in this street and was noticed by residents, do you think they would be proactive and assist in anyway? (i.e phone police, intervene etc)	☐	☑
Would you prefer to avoid walking along this street given the choice?	☐	☑
Do you think that the police patrol this area on a regular basis?	☑	☐
Do you think you would feel safe walking in this street?	☑	☐

IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7. IMAGE 7.

IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8.

Part 1. Please answer each question in 30 seconds using brief comments.

What socially acceptable, legal activities do you think you might see or hear in this street?	GARDENING, WASHING CARS.
What socially unacceptable, illegal activities do you think you might see or hear in this street?	DROPPING LITTER, DOGS FOULING.
What emotions or feelings do you think you might have walking in this street alone?	NEUTRAL.
Please state any changes that you think might improve the image of this area	HIGHER BOUNDARY WALLS. MORE INTERESTING PAVEMENT / ROAD SURFACES.
Please state if you think that the residents here are employed or unemployed. If employed, please list possible occupations.	EMPLOYED. TEACHERS, MIDDLE MANAGEMENT. SHOP MANAGERS. SUPERVISORY.

Part 2. Please state the first answer that comes to mind.

	Yes	No		Yes	No
Do you think that the residents are proud of their property?	☑	☐	Would you expect incidents of graffitti, vandalism or dereliction to occur here?	☐	☑
Is it clear to you where the property boundaries lie?	☑	☐	Would you expect noisy and troublesome teenagers here?	☐	☑
Do you think there is a neighbourhood watch scheme here?	☑	☐	Do you think these houses are privately owned by the residents?	☑	☐
Do you think residents can recognise strangers here?	☑	☐	Do you think these houses are rented by the residents?	☐	☑
Would you feel noticed by residents walking here?	☑	☐	Would you like to live here?	☐	☑
Does this street provide opportunities to hide for those who might behave in an unsocial or deviant manner?	☐	☑	If a crime was committed in this street and was noticed by residents, do you think they would be proactive and assist in anyway? (i.e phone police, intervene etc)	☑	☐
Would you fear for your personal safety here?	☐	☑	Would you prefer to avoid walking along this street given the choice?	☐	☑
Would you expect burglary to be common in this street?	☐	☑	Do you think that the police patrol this area on a regular basis?	☐	☑
Would CCTV reduce unsocial or illegal behaviour here?	☐	☑	Do you think you would feel safe walking in this street?	☑	☐

IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8. IMAGE 8.

IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9.

Part 1. Please answer each question in 30 seconds using brief comments.

What socially acceptable, legal activities do you think you might see or hear in this street?	WASHING CARS. MAINTAINING PROPERTY.
What socially unacceptable, illegal activities do you think you might see or hear in this street?	DROPPING LITTER.
What emotions or feelings do you think you might have walking in this street alone?	UNEASE.
Please state any changes that you think might improve the image of this area	REOCCUPATION OF BOARDED UP HOUSE. RAILINGS THROUGHOUT NOT BLOCK WALL. REMOVE PLANTS FROM WALL OF HOUSE
Please state if you think that the residents here are employed or unemployed. If employed, please list possible occupations.	EMPLOYED. CLERICAL, RETAIL, FACTORY.

Part 2. Please state the first answer that comes to mind.

	Yes	No		Yes	No
Do you think that the residents are proud of their property?	☑	☐	Would you expect incidents of graffitti, vandalism or dereliction to occur here?	☐	☑
Is it clear to you where the property boundaries lie?	☑	☐	Would you expect noisy and troublesome teenagers here?	☑	☐
Do you think there is a neighbourhood watch scheme here?	☐	☑	Do you think these houses are privately owned by the residents?	☑	☐
Do you think residents can recognise strangers here?	☑	☐	Do you think these houses are rented by the residents?	☐	☑
Would you feel noticed by residents walking here?	☑	☐	Would you like to live here?	☐	☑
Does this street provide opportunities to hide for those who might behave in an unsocial or deviant manner?	☐	☑	If a crime was committed in this street and was noticed by residents, do you think they would be proactive and assist in anyway? (i.e phone police, intervene etc)	☑	☐
Would you fear for your personal safety here?	☐	☑	Would you prefer to avoid walking along this street given the choice?	☐	☑
Would you expect burglary to be common in this street?	☐	☑	Do you think that the police patrol this area on a regular basis?	☑	☐
Would CCTV reduce unsocial or illegal behaviour here?	☐	☑	Do you think you would feel safe walking in this street?	☑	☐

IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9. IMAGE 9.

IMAGE 10 . IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10.

Part 1. Please answer each question in 30 seconds using brief comments.

What socially acceptable, legal activities do you think you might see or hear in this street?	GARDENING, WASHING CARS.
What socially unacceptable, illegal activities do you think you might see or hear in this street?	DOGS FOULING.
What emotions or feelings do you think you might have walking in this street alone?	SAFETY.
Please state any changes that you think might improve the image of this area	HIGHER FRONT BOUNDARIES. GATES ON DRIVES.
Please state if you think that the residents here are employed or unemployed. If employed, please list possible occupations.	EMPLOYED. TEACHERS, BUSINESS PEOPLE, ACCOUNTANTS, DENTISTS,

Part 2. Please state the first answer that comes to mind.

	Yes	No		Yes	No
Do you think that the residents are proud of their property?	☑	☐	Would you expect incidents of graffitti, vandalism or dereliction to occur here?	☐	☑
Is it clear to you where the property boundaries lie?	☑	☐	Would you expect noisy and troublesome teenagers here?	☐	☑
Do you think there is a neighbourhood watch scheme here?	☑	☐	Do you think these houses are privately owned by the residents?	☑	☐
Do you think residents can recognise strangers here?	☑	☐	Do you think these houses are rented by the residents?	☐	☑
Would you feel noticed by residents walking here?	☑	☐	Would you like to live here?	☐	☑
Does this street provide opportunities to hide for those who might behave in an unsocial or deviant manner?	☑	☐	If a crime was committed in this street and was noticed by residents, do you think they would be proactive and assist in anyway? (i.e phone police, intervene etc)	☑	☐
Would you fear for your personal safety here?	☐	☑	Would you prefer to avoid walking along this street given the choice?	☐	☑
Would you expect burglary to be common in this street?	☐	☑	Do you think that the police patrol this area on a regular basis?	☐	☑
Would CCTV reduce unsocial or illegal behaviour here?	☐	☑	Do you think you would feel safe walking in this street?	☑	☐

IMAGE 10 . IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10 IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10. IMAGE 10.